

PUBLIC HEALTH REPORTS

VOL. 45

MARCH 14, 1930

NO. 11

FURTHER OBSERVATIONS ON THE EPIDEMIOLOGY OF NARCOTIC DRUG ADDICTION¹

By W. L. TREADWAY, *Surgeon, Chief of Narcotics Division, United States Public Health Service*

The collection of further information respecting the individual characteristics of those coming within the purview of the antinarcotic laws allows the compilation of additional data with special reference to the epidemiology of drug addiction. A previous report dealing with certain phases of this subject appeared in the Public Health Reports for November 8, 1929.

During the four months' period beginning July 1, 1929, and ending October 31, 1929, 2,407 persons were reported as violators of the antinarcotic laws. Of this number, 2,040 were formally arrested and 367 were placed under surveillance of one kind or another. Of the 2,040 persons formally arrested, 1,996 were unregistered persons under the Harrison narcotic law and 44 were registered, including physicians, dentists, pharmacists, veterinary surgeons, and others. Of the 367 placed under surveillance, 162 were unregistered and 205 were registered under the Harrison Narcotic Act.

The geographical distribution of the unregistered class, embracing 2,158 persons, is widely scattered. Those States having the greatest proportions, however, are as follows: Illinois, 259, or 12 per cent; Michigan, 214, or 10 per cent; New York, 208, or 10 per cent; California, 157, or 7 per cent; Territory of Hawaii, 144, or 7 per cent; and Missouri, 134, or 6 per cent. The geographical distribution of the registered group, embracing 249 persons, is also widely scattered, those States having the highest proportions are as follows: Illinois, 70, or 28 per cent; Wisconsin, 69, or 28 per cent; Georgia, 16, or 6 per cent; Florida, 11, or 4 per cent; and Indiana, 7, or 3 per cent.

Of the total of 2,158 unregistered persons involved, 1,593, or 74 per cent, were addicted to the use of habit-forming drugs; and of the 249 in the registered group, 67, or 27 per cent, were addicts.

Table 1 sets forth the charges of those formally arrested and of those under other surveillance, classified by sex and registration or nonregistration, unregistered and registered persons grouped as addicts, nonaddicts, and unknown addicts.

¹ Acknowledgment is made here to Deputy Commissioner of Prohibition L. G. Nutt and his colleagues for their courteous cooperation in furnishing reports on violations of the antinarcotic laws.

TABLE 1.—*Classification of violators arrested*

Charge	Unregistered								
	Addicts			Nonaddicts			Unknown		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Possession.....	570	475	95	70	53	17	3	1	2
Sale.....	549	450	99	429	354	75	5	4	1
Forging prescriptions.....	30	17	13	5	4	1			
Vagrancy account drug addiction.....	95	82	13						
Drug addict.....	130	118	12						
Sale and conspiracy.....				9	9				
Purchase.....	72	57	15	21	15	6			
Prescribing for addicts.....									
Sending drugs through mail.....	2	1	1	1	1				
Failure to register and destruction of evidence.....									
Unlawful importation of drugs.....	2	2							
Failure to keep records.....									
Transporting drugs.....	1		1	2	2				
Total.....	1,451	1,202	249	537	438	99	8	5	3

Charge	Registered								
	Addicts			Nonaddicts			Unknown		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Possession.....									
Sale.....	3	3		33	33				
Forging prescriptions.....	2	2		2	2				
Vagrancy account drug addiction.....									
Drug addict.....									
Sale and conspiracy.....				1	1				
Purchase.....									
Prescribing for addicts.....	1	1		2	2				
Sending drugs through mail.....									
Failure to register and destruction of evidence.....									
Unlawful importation of drugs.....									
Failure to keep records.....									
Transporting drugs.....									
Total.....	6	6		38	38				

TABLE 1A.—*Classification of those under surveillance*

Charge	Unregistered								
	Addicts			Nonaddicts			Unknown		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Failure to keep proper record.....				1	1				
Unlawful purchase.....									
Sale.....	18	14	4	8	7	1	3	3	
Possession.....	68	67	1	3	3				
Forging prescriptions and illegal use of drug.....	6	3	3	2	2				
Drug addicts.....	50	31	19	1		1			
Prescribing for addicts.....									
Filling unsigned prescriptions.....									
Improperly writing prescriptions.....				1	1				
Failure to register and filing prescriptions.....				1		1			
Total.....	142	115	27	17	14	3	3	3	

TABLE 1A.—*Classification of those under surveillance—Continued*

Charge	Registered								
	Addicts			Nonaddicts			Unknown		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Failure to keep proper record.....	18	18		44	44		1	1	
Unlawful purchase.....				6	6				
Sale.....	4	4		10	10				
Possession.....				1	1				
Forging prescriptions and illegal use of drug.....	30	30		6	6		1	1	
Drug addicts.....	9	9							
Prescribing for addicts.....				21	21				
Filling unsigned prescriptions.....				31	29	2	1	1	
Improperly writing prescriptions.....				20	20				
Failure to register and filling prescriptions.....				2	2				
Total.....	61	61		141	139	2	3	3	

Of the 1,996 unregistered persons arrested, 1,427 were charged with violation of Federal law, 566 with violation of State laws, and for 3 this information was unknown: while of the 44 registered persons arrested, 42 were charged under Federal law and 2 under State laws.

Tables 2 and 3 are composite pictures of the age distribution by 5-year age periods, classified by sex, color, and registration or nonregistration under the Harrison narcotic law. Figure 1 graphically illustrates the age distribution by percentage of all addicts involved irrespective of sex, color, or registration status and also of both male and female addicts.

TABLE 2.—*Age in 5-year periods of male addicts, by color*

Color	Unregistered												
	Total	Unknown age	Under 15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 and over
White.....	823	6		6	86	140	183	182	95	53	32	23	17
Black.....	171	1		3	16	33	44	28	22	10	7	3	4
Yellow.....	322				7	33	43	35	28	33	37	36	70
Red.....	1					1							
Total.....	1,317	7		9	109	207	270	245	145	96	76	62	91

Color	Registered												
	Total	Unknown age	Under 15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 and over
White.....	66					1	3	4	6	9	17	9	17
Black.....	1								1				
Yellow.....													
Red.....													
Total.....	67					1	3	4	7	9	17	9	17

TABLE 3.—Age in 5-year periods of female addicts, by color

Color	Unregistered												
	Total	Un-known age	Under 15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 and over
White.....	201	-----	-----	3	25	60	29	30	23	17	6	4	4
Black.....	71	-----	-----	-----	4	13	19	16	10	4	2	2	1
Yellow.....	4	-----	-----	-----	1	-----	1	1	1	-----	-----	-----	-----
Red.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total.....	276	-----	-----	3	30	73	49	47	34	21	8	6	5

Color	Registered												
	Total	Un-known age	Under 15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 and over
White.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Black.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Yellow.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

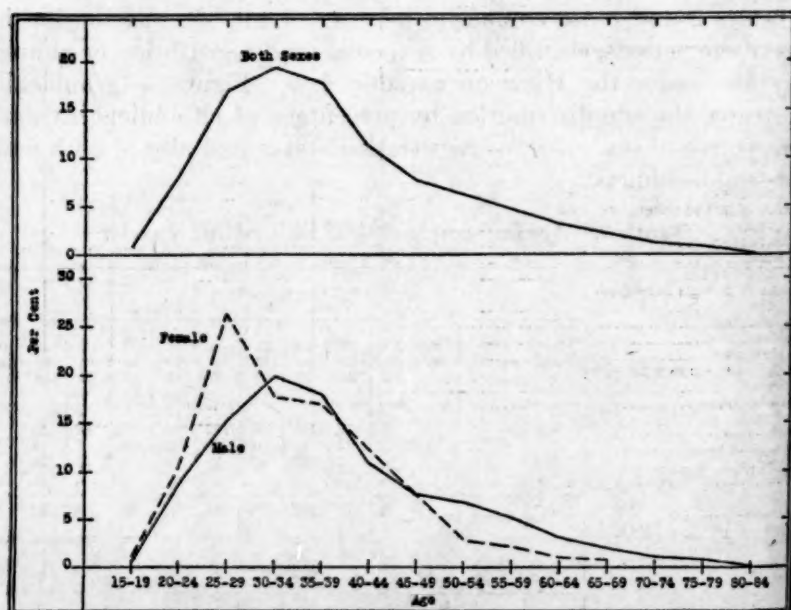


FIGURE 1.—Percentage of drug addicts in each 5-year age group (based on 1,384 male and 276 female unregistered and registered addicts of all colors)

The average age of drug addicts as shown by the 1,660 individuals involved is 38 years, while the average age for the 1,384 males is 38.8 years and for the 276 females 34.2 years.

Table 4 is a compilation of the birthplace of all addicts with special reference to urban, suburban, or rural birth, together with the

nativity of the parents. It will be observed that of the 1,593 unregistered persons involved more than half, or 837, were native born of native parentage and that more than a half, or 521, of those native born were reared in urban communities. A somewhat similar situation with respect to the foreign born of foreign parentage is observed regarding the community of origin; thus of the 349 foreign born, 231 had their origin in urban communities.

TABLE 4.—*Birthplace of addicts and parents*

Birthplace	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
Native of native parentage:						
Urban.....	521	412	109	12	12	
Suburban.....	56	43	13	2	2	
Rural.....	227	167	60	37	37	
Unknown.....	33	24	9			
Native of mixed parentage:						
Urban.....	56	44	12	2	2	
Suburban.....	4	4				
Rural.....	6	5	1	2	2	
Unknown.....	1					
Native of foreign parentage:						
Urban.....	147	130	17	3	3	
Suburban.....	6	6				
Rural.....	21	15	6			
Unknown.....	6	5	1			
Native of unknown parentage:						
Urban.....	71	49	22	1	1	
Suburban.....	9	6	3			
Rural.....	26	22	4			
Unknown.....	16	12	4	2	2	
Foreign of native parentage:						
Urban.....						
Suburban.....						
Rural.....						
Unknown.....						
Foreign of mixed parentage:						
Urban.....	5	4	1			
Suburban.....						
Rural.....	3	3				
Unknown.....						
Foreign of foreign parentage:						
Urban.....	231	224	7			
Suburban.....	15	14	1			
Rural.....	79	77	2	1	1	
Unknown.....	24	22	2			
Foreign of unknown parentage:						
Urban.....						
Suburban.....	1	1				
Rural.....						
Unknown.....						
Unknown of native parentage:						
Urban.....						
Suburban.....						
Rural.....						
Unknown.....						
Unknown of mixed parentage:						
Urban.....						
Suburban.....						
Rural.....						
Unknown.....						
Unknown of foreign parentage:						
Urban.....						
Suburban.....						
Rural.....	1	1				
Unknown.....						
Unknown of unknown parentage:						
Urban.....	1		1	1	1	
Suburban.....						
Rural.....						
Unknown.....	27	27		4	4	
Total.....	1,593	1,317	276	67	67	

The country of birth of all individuals reported as violators of the antinarcotic laws, classified as addicts, nonaddicts, and unknown, is set forth in Table 5. Of the 1,593 unregistered addict violators, 1,178 were natives of the United States, whereas 268 were natives of China. The latter are usually smokers of opium.

TABLE 5.—Country of birth of violators

Country of birth	Addicts						Nonaddicts						Unknown					
	Unregistered			Registered			Unregistered			Registered			Unregistered			Registered		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
United States	1,178	918	260	61	61	—	484	386	98	150	148	2	3	1	2	2	2	—
Territory of Alaska	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Territory of Hawaii	11	9	2	—	—	—	3	3	—	—	—	—	1	1	—	—	—	—
Philippine Islands	3	3	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—
Porto Rico	13	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Panama	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
England	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scotland	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Norway	1	1	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—
Sweden	1	1	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—
Finland	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poland	—	—	—	—	—	—	1	1	—	1	1	—	—	—	—	—	—	—
Hungary	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Austria	4	4	—	—	—	—	3	3	—	1	1	—	—	—	—	—	—	—
Germany	4	2	2	—	—	—	1	1	—	4	4	—	—	—	—	—	—	—
The Netherlands	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Greece	1	1	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Italy	4	4	—	—	—	—	18	18	—	—	—	—	—	—	—	—	—	—
Russia	7	4	3	—	—	—	1	1	—	5	5	—	—	—	—	—	—	—
China	268	267	1	—	—	—	12	12	—	—	—	—	—	—	—	—	—	—
Japan	18	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mexico	24	24	—	—	—	—	13	10	3	2	2	—	1	1	—	—	—	—
Brazil	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
British Guiana	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—
Venezuela	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Chile	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Africa	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—
Canada	7	6	1	1	1	—	3	3	—	4	4	—	—	—	—	—	—	—
Cuba	3	3	—	—	—	—	4	3	1	—	—	—	—	—	—	—	—	—
West Indies	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Syria	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Unknown	29	28	1	5	5	—	5	5	—	5	5	—	6	5	1	1	1	—
Total	1,593	1,317	276	67	67	—	554	452	102	179	177	2	11	8	3	3	3	—

The educational status of the reported violators has been classified into seven groups, embracing the illiterate who can not read or write, those who are able to read and write, those having a common-school, high-school, college, or professional education, and also those of unknown educational standard. These data are set forth in Table 6.

TABLE 6.—*Education of addicts*

Education	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
Illiterate.....	131	119	12			
Read and write.....	139	126	13			
Common school.....	938	772	166			
High school.....	245	180	65			
College.....	47	35	12			
Professional.....	10	10		67	67	
Unknown.....	83	75	8			
Total.....	1,593	1,317	276	67	67	

The age on leaving school and the grade reached for the total array of individuals involved is shown in Table 7, which is, perhaps, a better index of the educational level of this group. It corresponds in general, however, with the distribution of the educational level of a general population.

TABLE 7.—*Age of addicts when leaving school and grade reached*

Age leaving school	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
No school.....	37	33	4			
8 years.....	9	7	2			
9 years.....	13	12	1			
10 years.....	36	33	3			
11 years.....	20	18	2			
12 years.....	67	51	16			
13 years.....	74	52	22			
14 years.....	239	193	46			
15 years.....	183	145	38			
16 years.....	205	162	43			
17 years and over.....	363	306	57	55	55	
Unknown.....	347	305	42	12	12	
Total.....	1,593	1,317	276	67	67	

Grade reached	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
First grade.....	13	10	3			
Second grade.....	23	20	3			
Third grade.....	44	40	4			
Fourth grade.....	83	67	16			
Fifth grade.....	101	81	20			
Sixth grade.....	107	81	26			
Seventh grade.....	135	108	27			
Eighth grade.....	349	282	67			
High school, not 4 years.....	230	179	51			
High school, complete.....	34	24	10			
College.....	51	41	10	62	62	
Unknown.....	423	384	39	5	5	
Total.....	1,593	1,317	276	67	67	

The employment history of the group involved in formal and other forms of arrest is worthy of study as a means of evaluating the ability by which individuals of this class may be able to project their men-

TABLE 8.—*Use of alcohol by addicts—Continued*

Ages by 5-year periods	Registered									
	Male					Female				
	Total	Unknown	Unknown quantity	Abstainer	Moderate	Excessive	Total	Unknown	Unknown quantity	Abstainer
Under 15 years.....	1									
15 to 19 years.....	3			1						
20 to 24 years.....	4			2		1				
25 to 29 years.....	7			3	1					
30 to 34 years.....	9	2	1	6	1					
35 to 39 years.....	17		1	5						
40 to 44 years.....	9		1	13	2	1				
45 to 49 years.....	9		1	8						
50 to 54 years.....	17	1	1	12	2	1				
55 to 59 years.....										
60 years and over.....										
Unknown.....										
Total.....	67	3	5	50	6	3				

Like chronic alcoholism, narcotic drug addiction becomes established at a much earlier age than is generally supposed. Table 14 sets out the age at which drug addiction has become established in the 1,660 cases of addicts reported. It will be observed that of these 1,660 cases, in 996 cases drug addiction was established between the ages of 20 and 34, or 60 per cent, and of the total cases involved 320, or 19 per cent, became established between the ages of 25 and 29, and 779, or 47 per cent, became established under the age of 24.

TABLE 9.—*Age drug addiction was established*

Age	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
Under 15 years.....	16	13	3	1	1	
15 to 19 years.....	275	221	54	2	2	
20 to 24 years.....	485	399	86	6	6	
25 to 29 years.....	314	243	71	12	12	
30 to 34 years.....	177	140	37	11	11	
35 to 39 years.....	91	84	7	7	7	
40 to 44 years.....	33	30	3	6	6	
45 to 49 years.....	16	14	2	7	7	
50 to 54 years.....	10	8	2	2	2	
55 to 59 years.....	5	5		4	4	
60 years and over.....	8	8		9	9	
Unknown.....	163	152	11			
Total.....	1,593	1,317	276	67	67	

Table 10 is a compilation respecting the kind of drugs used by the 1,660 addicts. The drugs are classified as drugs of choice. In the same tabulation will be found the methods of administering the drug.

TABLE 10.—*Drugs used by addicts and how administered*

Drug of choice	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
Morphine.....	990	760	230	64	64	1
Codaine.....	106	98	8	1	1	1
Heroin.....	8	7	1	1	1	1
Other alkaloids.....	353	342	11			
Other forms—laudanum, paregoric, etc.....	32	23	9			
Opium not otherwise specified.....	22	18	4			
Morphine and heroin.....	1	1				
Morphine and opium.....	3	2	1			
Heroin and opium.....	63	55	8	1	1	
Morphine, heroin, and other forms.....	15	11	4			
None.....						
Unknown.....						
Total.....	1,593	1,317	276	67	67	
Cocaine.....	295	225	70	9	9	
Other coca divisions.....	3	3				
None.....	1,283	1,081	202	58	58	
Unknown.....	12	8	4			
Total.....	1,593	1,317	276	67	67	
Hemp.....	1	1				
Peyote.....						
Chloral.....						
Atropine.....	1		1	1	1	
Veronal.....				1	1	
Other drugs.....	1		1			
None.....	1,574	1,304	270	65	65	
Unknown.....	16	12	4			
Total.....	1,593	1,317	276	67	67	

How administered	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
By mouth.....	19	11	8	5	5	
By hypodermic.....	1,121	881	240	56	56	
By mouth and hypodermic.....	13	9	4	2	2	
By smoking.....	343	333	10			
By other methods.....	35	29	6	1	1	
By sniffing and hypodermic.....	9	8	1			
By mouth and smoking.....	4	4				
By hypodermic and smoking.....	8	8				
By sniffing.....	15	13	2			
Unknown.....	26	21	5	3	3	
Total.....	1,593	1,317	276	67	67	

The quantity of narcotic drugs necessary to maintain addiction is quite variable. It depends in part upon the idiosyncrasy of the individual, not only from the standpoint of his mental background and temperament, but on a variety of other factors. Table 11 is a compilation of the average daily dose which the addicts themselves indicate is necessary for maintaining themselves in comfort. It serves as an index of the requirements.

TABLE 11.—Daily dose of drug used by addicts

Daily dose	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
OPIUM ALKALOIDS						
Less than one-half grain.....	2	1	1			
One-half grain but less than 1 grain.....	3	3		3	3	
1 grain, but less than 2 grains.....	41	29	12	5	5	
2 grains, but less than 3 grains.....	76	53	23	7	7	
3 grains, but less than 5 grains.....	190	148	42	8	8	
5 grains, but less than 10 grains.....	363	292	71	23	23	
10 grains, but less than 15 grains.....	320	270	50	4	4	
15 grains, but less than 20 grains.....	154	133	21	5	5	
20 grains or more.....	131	105	25	3	3	
Smoking opium gum, quantity unknown.....	138	135	3			
None.....	60	52	8	1	1	
Unknown quantity.....	115	95	20	8	8	
Total.....	1,593	1,317	276	67	67	
COCA LEAF ALKALOIDS						
Less than one-half grain.....						
One-half grain, but less than 1 grain.....						
1 grain, but less than 2 grains.....	2	2		1	1	
2 grains, but less than 3 grains.....	18	13	5	1	1	
3 grains, but less than 5 grains.....	34	21	13	1	1	
5 grains, but less than 10 grains.....	80	67	13	2	2	
10 grains, but less than 15 grains.....	44	35	9			
15 grains, but less than 20 grains.....	16	14	2			
20 grains or more.....	23	13	10			
None.....	1,294	1,091	203	59	59	
Unknown quantity.....	82	61	21	3	3	
Total.....	1,593	1,317	276	67	67	
OTHER DRUGS						
Less than one-half grain.....						
One-half grain, but less than 1 grain.....						
1 grain, but less than 2 grains.....						
2 grains, but less than 3 grains.....	1		1			
3 grains, but less than 5 grains.....	1		1			
5 grains, but less than 10 grains.....				1	1	
10 grains, but less than 15 grains.....						
15 grains, but less than 20 grains.....						
20 grains or more.....				1	1	
None.....	1,574	1,304	270	65	65	
Unknown quantity.....	17	13	4			
Total.....	1,593	1,317	276	67	67	

Considering Table 11 as a reasonably accurate index of the quantity of opium alkaloids required to maintain addiction, it will be observed that the average quantity of drug necessary is approximately 10.6 grains per day; for coca leaf alkaloids the average is 9.9 grains per day; and for other drugs, including hemp, chloral, veronal, etc., it is 9.7 grains. Of the 1,660 drug addicts involved, 1,338 use opium or its derivatives, and the amount per day of drug necessary for maintaining these 1,338 addicts is 14,152 grains; of the total number of addicts involved, 222 use coca leaf alkaloids, and the amount per day necessary for these 222 addicts is 2,212 grains; and of the total number of addicts, 4 use 39 grains per day of other drugs.

The causes of drug addiction are very multiple, but for purposes of convenience may be divided into precipitate and predisposing. Among the precipitating causes of drug addiction, the influence of other addicts has been alleged as being the most potent cause. Table 12 sets forth the precipitating causes of the 1,660 addicts reported.

TABLE 12.—Reasons given by addicts for use of drugs

Reasons for addiction	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
Previous use of drugs in medical treatment.....	285	204	81	40	40	-----
Self-treatment for relief of pain.....	212	184	28	14	14	-----
Recourse during emotional distress.....	10	9	1	2	2	-----
Influence of other addicts, community.....	594	491	103	3	3	-----
Influence of other addicts, prisons.....	2	2	-----	-----	-----	-----
Curiosity, thrill, bravado, etc.....	112	94	18	2	2	-----
To overcome drunkenness.....	10	9	1	-----	-----	-----
Unknown.....	368	324	44	6	6	-----
Total.....	1,593	1,317	276	67	67	-----

Treatment to relieve an individual from the habit of taking narcotic drugs is also variable. Drug addicts in some instances seek treatment for the purpose of ridding themselves of the slavery of the drug; because relatives and friends insist upon a cure for their habit; because of a desire to impress those concerned with the enforcement of law that they desire to improve their ways; because their temporary isolation during treatment affords a convenient refuge from the police; or because of a desire to reduce the average daily dose so that the resumption of the habit at some subsequent date would be less expensive on account of the quantity of drug required to maintain their comfort. Table 13 serves as an index to illustrate the number of treatments taken by the 1,660 addicts reported.

TABLE 13.—Number of treatments taken for addiction

Number of treatments	Unregistered			Registered		
	Total	Male	Female	Total	Male	Female
1 treatment.....	262	217	45	16	16	-----
2 treatments.....	93	71	22	8	8	-----
3 treatments.....	40	32	8	6	6	-----
4 treatments.....	12	7	5	1	1	-----
5 treatments.....	1	1	-----	-----	-----	-----
6 treatments.....	5	5	-----	-----	-----	-----
7 treatments.....	1	1	-----	-----	-----	-----
8 treatments.....	1	1	-----	-----	-----	-----
9 treatments.....	2	1	1	-----	-----	-----
10 or more treatments.....	5	4	1	-----	-----	-----
None.....	957	786	171	33	33	-----
Unknown.....	214	191	23	3	3	-----
Total.....	1,593	1,317	276	67	67	-----

The physical status of the 1,660 addicts reported is classified as follows: Of the 889 white males, 43 were deformed, 163 diseased, and 5 infirm; of the 172 black males, 7 were deformed, 15 diseased, and none infirm; of the 322 yellow males, 4 were deformed, 9 diseased, and 1 infirm; and the 1 red male was not deformed, diseased, nor infirm. Of the 201 white females, none were deformed, 32 diseased, and 2 infirm; of the 71 black females, 1 was deformed, 13 diseased, and

none infirm; and of the 4 yellow females, none were deformed, diseased, or infirm.

Further data dealing with the epidemiology of drug addiction will be published from time to time.

PUBLIC HEALTH SURVEY OF PINE BLUFF, ARK.

By ALLAN J. McLAUGHLIN, *Surgeon, United States Public Health Service*

Pine Bluff is situated on the Arkansas River about 40 miles south-east of Little Rock, the State capital, which is near the center of the State. It is the natural business center for the southeastern half of the State, a low plain sloping gradually to the southeast. The climate is pleasant. Over a period of 45 years the mean annual temperature was 62, with a mean for July of 81 and for December, January, and February of 43. The average annual rainfall is 50 inches. It is an important railroad center served by the Missouri Pacific and the St. Louis Southwestern. The general repair shops of the latter are located in Pine Bluff. It is a trade center for south-east Arkansas, the principal products being cotton and lumber. It is becoming a city of considerable industrial importance and the people employed in the production of cotton and cottonseed oil and by-products, lumber and woodworking industries, grain and feed mills, iron foundries, and various minor industries, together with the men employed in the St. Louis Southwestern Railroad shops, make up an industrial population of probably over 4,000.

Pine Bluff is the third largest city in Arkansas. It covers an area of 5 square miles. Its population in 1910 was 15,102, and in 1920 it was 19,208. A large increase in area by which outlying suburbs are taken into the city gives a larger population than an estimate based on the decennial censuses. The population, according to the city directory of 1929 is 30,000—67 per cent white and 33 per cent colored. The foreign-born population is small, being about 2 per cent.

FINANCIAL

Pine Bluff has a total assessed valuation of property of \$12,511,220—real, \$8,051,230; personal, \$4,459,990. This assessment is about 40 per cent of the true value. The tax rate is \$30.15 per \$1,000. The principal items in the city budget are—

General government.....	\$21,894.01
Police department.....	40,270.86
Fire department.....	44,617.12
Water department.....	17,186.65
Light department.....	13,380.00
Health conservation.....	5,756.65
Streets and sewers.....	26,454.94
Schools (special 18 mill tax).....	250,000.00

Of the item "Health conservation," only \$3,600 should be charged to the health department. There is an item of \$1,800 for an inspector employed by the mayor, presumably used as a nuisance inspector, who is under neither the direction nor supervision of the health officer. This item is charged to health conservation, but the duties are really police duties.

HOUSING

Pine Bluff has no tenements and no slums. It has grown steadily and not too fast. The price of land is reasonable and houses are, as a rule, detached. It has reached the stage now where city planning should be instituted to obviate the handicaps inevitable in haphazard growth.

WATER SUPPLY

The water is supplied by a private company by contract at a fixed rate for each fire hydrant. The total cost to the city is, in round numbers, \$17,000 per annum. In addition, the citizens pay the company for what they use. The use of the city water is general as indicated by the fact that there are 5,488 metered services. Deep wells are the source of the water, which is of excellent quality. Its safety is checked by the water company weekly and occasionally by the State board of health.

SEWERAGE AND SEWAGE DISPOSAL

The whole city of Pine Bluff is served by two sanitary sewer outfall lines. One line is 18 inches, the other 24 inches in diameter. These lines are laid to discharge at a certain low stage of the river arbitrarily designated 5 on the local gage. This low stage is reached only once in four or five years; consequently at any stage above 5 the sewage is discharged against a head by accumulating sufficient load in the lines to overcome it. When the water reaches 28 on the gage (about three times a year) the sewage is backed up and discharges through the tops of the manholes. Besides the difficulty of a widely fluctuating river level and a rather flat grade, these sewers are now carrying an overload of at least 50 per cent over what they were designed to carry. This problem has already caused some discomfort and inconvenience, but it is a steadily increasing problem; and as the city is growing, some remedial measures must be planned for future relief. While the greater part of the city is sewered, there are in the outlying districts 780 unsewered homes. In these districts very good work has been done in improving the excreta disposal, and 555 of these homes now have privies of an approved type.

GARBAGE AND REFUSE

There is no municipal system of collection of garbage and refuse in Pine Bluff, which are hauled away by arrangement between the householder and some individual owner of transportation who hauls for the value of the garbage or is paid by the householder. In many instances the householder disposes of garbage on his own premises by burning or burying. Here, again, this growing city is approaching, if it has not actually reached, the point in its growth where the municipal government must put in effect some uniform system of disposal.

MOSQUITO BREEDING

There is a mosquito problem in Pine Bluff, but very little is done to prevent mosquito breeding either along the small water course which traverses the low ground through the city or upon swampy areas and temporary breeding places left after rains in low ground. Last year the city spent \$126 for labor and oil for this purpose, which was the extent of antimalarial measures. A survey should be made of larval breeding places and mosquitoes should be caught to determine the species of adult mosquitoes prevalent.

It is recommended that a request be made through the State health officer, to the Surgeon General of the United States Public Health Service for a malaria survey of Pine Bluff with a plan for the prevention of malaria.

ORGANIZATION OF HEALTH DEPARTMENT

With the meager appropriation of \$3,600 very little health work could be done; this would hardly be sufficient to pay a full-time health officer. Luckily for the city of Pine Bluff a joint health department for the city and Jefferson County is in operation. Its budget is as follows:

County health work.....	\$5, 000
United States Public Health Service.....	1, 500
Rockefeller (I. H. B.).....	600
State Board of Health, Arkansas.....	600
County board of education.....	2, 400
City board of education.....	1, 200
Tuberculosis seal sale.....	1, 500
Community chest.....	1, 500
City health department.....	3, 600
	<hr/>
	17, 900

Personnel

- 1 health officer, city and county.
- 1 sanitary inspector.
- 1 nurse one-half time dental hygiene, one-half public health nursing.
- 2 nurses generalized.
- 1 nurse, school.
- 1 technician, laboratory, one-half time; clerk one-half time.

Besides this personnel there is the mayor's inspector; who does something about nuisances, and a full-time nurse of the Metropolitan Life Insurance Co., who does considerable work in visiting prenatal postnatal, and infant welfare cases. This is the entire personnel available for health work in both city and county.

VOLUNTARY AGENCIES IN THE HEALTH FIELD

In strictly public-health work, other than that of the joint health department, there is no personnel operating in Pine Bluff except the one nurse of the Metropolitan Life Insurance Co. The close relation between health work and the work of hospitals, dispensaries, and the care of the sick poor compels inclusion of these facilities in any survey of health activities. There is one hospital, the Davis Hospital, under the auspices of the Baptist Church. It has 50 beds, a competent staff of 6 surgeons, 1 X-ray technician, 1 eye, ear, nose, and throat specialist, and 1 pediatrician. It has a budget of about \$45,000. It has a training school for nurses, with 28 student nurses. It has a well-equipped operating room, X-ray machine, and laboratory. It admits patients of any of the 36 doctors in Pine Bluff. The ward rate is \$3 per day, while the rate for private rooms is from \$4 to \$5 per day. It has three beds for obstetrical cases and a delivery room. It had 69 deliveries in 1928. There is one free bed (Associated Charities). The hospital has no out-patient department. A hospital for colored patients, called the Links Hospital, not yet fully equipped, expects to have 50 beds. It is open to all doctors, white and colored, and expects to give a semicharity rate of \$1.50 per day. Even if the Links Hospital completes its 50 beds the available beds for city and county is too low. More serious is the lack of out-patient clinics for ambulant indigent cases. It should be possible to establish these in connection with the hospitals, the indigent cases to be paid for by the city at a fair rate. At present the city is doing very little for its sick poor. This is another problem of the growing small city which Pine Bluff will have to face. There are a number of social agencies whose work is intimately associated with health, such as the Associated Charities, the Red Cross, and the Salvation Army.

The lines of demarcation of their fields of activity are none too clear. It ought to be feasible to simplify procedure by having one clearing house for sick relief which has a direct bearing on the charity burden. If this could not be assigned to the Associated Charities alone, then some arrangement for a joint committee to certify indigents for treatment should be made. I understand that there is a confidential exchange for the county to prevent duplication and to serve as a clearing house for information and knowledge of methods and plans for treatment. There is also in the county a council of welfare workers which would appear to be a more logical clearing house than the

Confidential Exchange; but for the city of Pine Bluff the Associated Charities would seem to be the logical agency either alone or with a representative of each of the other welfare and church organizations concerned in the charities and its inseparable companion sick relief.

It is recommended that an effort be made to have established at both the Davis Hospital and the new Links Hospital out-patient departments in which ambulant indigent cases could be treated by a rotating service of the present staffs. If necessary, additional practicing physicians could be added to the staffs for this purpose. The service rendered for the indigent sick should be paid for at reasonable rates by the city, and cases should be certified as indigent by the Associated Charities. This service would secure early treatment and prevention of disease, obviating much of the hospital treatment made necessary by neglect of early cases. It would greatly lessen the burden on charity funds.

GENERAL SANITARY INSPECTIONS

The total annual inspections, exclusive of plumbing, smoke, food, and communicable disease, numbered 1,542. Of these, 909 were nuisances, various kinds, on private premises, 555 were for excreta disposal, and 78 for water supplies.

Food.—There is no personnel available to furnish an adequate control of food and food handlers. There is no inspection of restaurants, hotels, bakeries, meat markets, and candy and soft drink stores. There is no inspection of slaughtering or other inspection of the handling of meats. About 50 per cent of meat is from the big packing companies having Federal inspection. One slaughterhouse in Pine Bluff, without inspection, handles 25 per cent of meat used in the city. The other 25 per cent is slaughtered wherever the animal happens to be. Slaughtering should be permitted only in a municipal abattoir under a rigid inspection by a veterinarian. Considerable revenue would be derived from fees for each animal slaughtered. The initial cost and the interest on the cost of construction of an abattoir with the veterinarian's salary are considerable items, and it is doubtful whether the fees collected would cover these for the first years. The actual saving of life and prevention of disease is small compared with other health activities such as child hygiene and communicable disease control.

It is recommended that an ordinance be passed if more specific authority is needed to provide for an inspection of food and food handlers, of restaurants, hotels, bakeries, meat markets, and candy and soft drink stores. Inspection of meat and the restriction of slaughtering to a municipal abattoir under rigid inspection are desirable additions to public health protection. The expense of such

a system is scarcely justifiable at this time, but is something that must be assumed in the future, perhaps when Pine Bluff exceeds 50,000 population, and after more urgent needs in the field of public health are satisfied.

Milk.—In the control of milk, especially raw milk, the health department has a real achievement to its credit. If we take out the points allowed for pasteurization, we should be obliged to give a perfect score for milk control to the health department. Only 10 to 12 per cent of milk is pasteurized in Pine Bluff. The pasteurizing plant is equipped with recording thermometers and flush valves. The 17 dairies furnishing milk to the pasteurizing plant were inspected not less than five times per year and the pasteurization plant not less than once each week. Eighty per cent of samples of pasteurized milk showed counts below 50,000 bacteria per cubic centimeter. The 34 farms delivering raw milk direct were inspected three hundred and six times, an average of nine times a year for each; 252 samples of this raw milk were analyzed and 98 per cent showed counts of below 500,000 bacteria per cubic centimeter. The sanitary inspector operates under the standard milk ordinance and by frequent inspections in a rather compact territory has been able to compensate somewhat for the low percentage of pasteurized milk by enforcing the production of a raw milk well within the limits fixed.

The work done in control of milk is of such an excellent character that the only recommendation made is to continue this high standard of control. It is hoped that the percentage of pasteurized milk will increase, as it is low, only 10 or 12 per cent, but in the meantime a fine measure of safety is insured by the control exercised over raw milk by the health department.

LABORATORY

There is a good beginning in laboratory work in Pine Bluff. There is a capable technician for routine typhoid, diphtheria, tuberculosis, and urine examinations. Wassermann and gonococcus examinations are made at the State board of health laboratory at Little Rock. Water analyses and milk analyses are also done in considerable numbers. The technician gives part time to the laboratory and part time to clerical work, consequently with the large numbers of milk and other analyses the use of the laboratory for diagnosis of communicable diseases as an aid to physicians is restricted. Release cultures for diphtheria are made, but typhoid cases are discharged without the usual negative cultures.

While the laboratory has made a good beginning, it is recommended that the work of the technician be full time to meet increased examinations which seem obviously necessary. More work should be done to help local physicians in diagnosis. No typhoid cases should be discharged without at least two negative cultures of excreta. A

greater number of contact cultures in diphtheria should be made. If increased personnel for follow-up and case finding work can be furnished better reporting will follow and a marked increase in laboratory work will be necessary for all communicable diseases.

CONTROL OF COMMUNICABLE DISEASES

Control of communicable diseases is directed by the health officer, who is assisted by the three health department nurses. For diphtheria, typhoid, and scarlet fever the investigation of cases is made by the nurses, and individual epidemiologic cards are filled out and filed. The health officer acts as consultant to determine the diagnosis of doubtful cases. There is no hospital available for contagious diseases in Pine Bluff and all cases must be quarantined or isolated in the homes.

Reporting.—The reporting of typhoid fever is very incomplete. In the three years 1926, 1927, and 1928, 52 deaths were reported, while only 99 cases were reported—less than 2 cases per death. On the average for the three years less than 7 cases of diphtheria per death were reported. Scarlet fever was a little better reported, but still far below the standard, as only 52 cases were reported to 2 deaths. Measles was incompletely reported also, the average for 3 years being 20 cases per death instead of the standard of approximately 60 cases per death. Whooping cough was reported in the ratio of less than 3 cases per death instead of a standard ratio of 25 cases per death.

Diphtheria control.—As previously noted, contacts are cultured, but only children are held in isolation until cultures are proved negative. About 50 per cent of household contacts under 15 years of age were passively immunized last year. Antitoxin is not given free; the family or physician must pay. The Schick test is not employed to determine immunity. In 1929, 75 children were given toxin-antitoxin injections.

Smallpox control.—There is no record of adult vaccinations, but 100 per cent of the pupils were vaccinated on entrance to school.

Scarlet fever.—Quarantine for 28 days with isolation of contacts for 10 days.

Visits to cases.—The following gives data regarding visits to cases:

Disease	Cases	Visits
Diphtheria.....	9	27
Scarlet fever.....	49	151
Typhoid.....	6	24
Measles.....	28	84
Whooping cough.....	17	51

This gives an average of three visits per case instead of the standard of four.

The need for more public health nurses in communicable disease control is urgent. There are not enough of the cases reported and not as many of the mild cases found which do not call a doctor as

should be found. Of the cases reported, too few visits are made. School hygiene work helps in case finding, and with a greater activity in prenatal and infant hygiene more cases will be found; and so not only are more nurses needed for infant and maternal welfare itself, but these will increase the need of more work in communicable disease control.

Venereal disease control.—There is nothing being done in venereal disease control, except administration of a few doses of salvarsan by the health department, to render indigents noninfective. Reporting is falling off. The State board of health reports for Pine Bluff 184 cases of syphilis in 1926, 272 cases in 1927, and only 14 cases in 1929. The State board of health also reports 212 cases in 1928 in Pine Bluff discontinuing treatment while disease is still communicable. Only 12 new cases were diagnosed in 1929.

There is need for more follow-up and case finding in venereal diseases, the lack of which is due to shortage in personnel. Reporting has practically ceased and investigation of sources and contacts is not possible without increasing the present number of nurses.

Tuberculosis.—Case finding and reporting are very inadequately done. In the three years 1926, 1927, and 1929 there were 43 cases and 180 deaths reported. It is said that the State sanatorium does not report cases discharged from the sanatorium and returning to city. There are facilities in the health department for examining patients but no regular clinic sessions. During 1929, 47 patients were examined in the health department clinic. Twelve of these were new cases, of which nine were sent to the State sanatorium, four of which had not passed the incipient stage. Eight contacts were examined. Visits to tuberculous patients were made as follows: 89 by the health department nurses and 36 by the Metropolitan Life Insurance Co. nurse, a total of 125. Cases registered at present with health department, 3; with Metropolitan nurse, 2.

An additional nurse is necessary to increase activity in case-finding and follow-up work. A tuberculosis clinic should be held frequently at which should be available an expert diagnostician in incipient tuberculosis. It should be held by the health department under the auspices of the local medical society.

MATERNAL AND INFANT HYGIENE

There were 478 births in Pine Bluff in 1929. Of these, 263 were delivered by midwives and 215 by physicians. Of the 215 delivered by physicians, 52 were confined in a private hospital which has obstetric facilities (Davis hospital). There is no prenatal clinic and no prenatal service except the prenatal visits (228) by a nurse of the Metropolitan Life Insurance Co. Twenty-three cases were reported to this nurse at least three months before pregnancy. There is no baby welfare clinic, but the Metropolitan nurse made 328 visits to

new-born babies and a total of 440 post-natal visits. In addition to these she made 85 infant welfare visits (children under one year).

There were registered and licensed by the State 75 midwives in Pine Bluff, and a very creditable effort is made by the health department to raise their standards and improve their methods. Bimonthly classes are held. Instruction is given by the health department nurses, and the average attendance at class is 41 per cent.

As Pine Bluff grows, a prenatal clinic attached to a small obstetrical unit with expert consultant obstetric advice will become a necessity. At present it is recommended that many more prenatal visits be made to a larger number of expectant mothers registered at least three months before delivery. This will necessitate more nursing service. The development of the prenatal clinic will follow after a greatly increased activity in prenatal service. There should be established at once a baby welfare clinic, not only for its value to infants but as a gateway to the field of preschool hygiene. This will necessitate more nursing service.

PRESCHOOL HYGIENE

Very little preschool hygiene is provided. There are no infant welfare clinics, which always serve as an entrance to this field. The health officer has attempted, with considerable success, to secure control of some preschool children through the parent-teachers association. He has held a preschool clinic during the first week in May of each year and physical examination of many children who enter school the following year were made. Defects were noted and their correction was recommended to the parents.

It is recommended that the health officer continue the good work started in cooperation with the local medical society and the parent-teachers association the first week of May and that the baby welfare clinic be used for preschool clinic service as well as throughout the year. With increased public health nursing activity in prenatal and infant hygiene and in communicable disease visiting and follow-up, many more preschool children will be brought under medical supervision.

SCHOOL HYGIENE

With the very limited funds and personnel available, the health officer has shown excellent judgment in concentrating on the hygiene of the school child. The desirability of preschool child examinations is obvious, but the difficulty of finding portals of entrance into this field and acquiring control of any considerable percentage of the children of preschool age must also be considered where funds are limited. In the school-age group access to 100 per cent makes it the more practicable field, if insufficient funds make a choice necessary as between the two fields of activity.

The board of education pays the salary of one school nurse (\$1,200 for nine months' work), and she works under the direction of the health officer, who acts as school physician. One nurse, one-half time, acts as dental hygienist. A colored public health nurse is now employed, and similar work is being started in the colored schools.

There is excellent cooperation by the teaching personnel in excluding pupils suspected of having a communicable disease, who are followed up and visited by nurse, physician, or both. Every child in all grades from one to six is examined three times each year by the physician. This examination includes vision, teeth, throat, and nutrition. Hearing is not tested, and heart examination is for the purpose of finding gross lesions only. Cards are kept for each child and the defects and corrections are noted, but lack of clerical help has prevented the compiling of the statistics from the cards.

	Defects	1928	1929
Teeth.....		2, 834	1, 885
Throat.....		779	705

The reduction in the number of defects in 1929 does not accurately express the corrections. There is a primary class in 1929 not examined in 1928 and a sixth grade examined in 1928 which was not examined in 1929. These do not exactly balance each other (there probably were more defects in the class entering than in the class graduating), but the difference between 1928 and 1929 is in greatest measure due to corrections even if it does not express corrections exactly. This would indicate that about 33 per cent of teeth defects and about 10 per cent of throat defects were corrected.

In addition to the physical examination, health instruction is stressed. In grades 1, 2, and 3, 75 minutes per week is devoted to health instruction of an elementary character. In grades 4, 5, and 6, 150 minutes per week are devoted to health instruction from textbooks. This is independent of the gymnasium instruction, 250 minutes per week, given to eighth-grade pupils.

Essays on health, health books, and posters are employed, lessons in ventilation, keeping of weight and height records, health clubs, and other methods of focusing the child's interest upon health are used. All children are weighed every six weeks and those underweight are weighed once each week.

Outside of the school grounds, which are small, there is no playground development or playground association.

School hygiene work should be expanded from the splendid work now being done in the first six grades of the white schools to the colored grades from one to six and in the high school of both white and colored. The same service should be rendered to the parochial schools upon their request.

SUMMARY

An attempt has been made to outline the necessary additions to existing machinery to complete a well-rounded health organization. With the exception of school hygiene and milk control, essential standard public health procedures are either only partially carried out or are omitted altogether, because of insufficient funds. The health officer used his limited personnel to give the maximum results for the money expended. In the recommendations made above, some are of much greater urgency than others; notably, prompt action to increase work in prenatal, infant welfare, preschool and school hygiene, tuberculosis and communicable disease control is essential. It so happens that in every one of these urgent items the need for increased activity can be met only by increased public health nursing personnel. Therefore, with the minimum of delay at least three additional public health nurses should be placed upon the pay roll of the health department. To meet this urgent need the city should appropriate for the health department a sum of not less than \$6,000 in addition to the \$3,600 now appropriated.

These nurses should be for general duty under the direction of the health officer and assigned by him to duty in prenatal, infant welfare, preschool, or school hygiene work or tuberculosis or other communicable disease work in such manner as in his opinion would best carry out the suggestions made above.

Because of the admirable qualifications of the present health officer, his vision, technical knowledge of public health, and sound ideas of organization, advising in detail as to how the new personnel was to be used has been purposely avoided, leaving these matters of detail to the good judgment and discretion of that official.

The other suggestions relating to food control, meat inspection, etc., are less urgent and can be taken care of after a comprehensive program of child hygiene and communicable disease control is put into effect.

COURT DECISION RELATING TO PUBLIC HEALTH

Law for prevention of ophthalmia neonatorum construed.—(Michigan Supreme Court; *People v. Clobridge*, 228 N. W. 692; decided Jan. 24, 1930.) A 1913 statute provided in part as follows:

It shall be the duty of any physician, nurse, or midwife who shall assist and be in charge at the birth of any infant, or have care of the same after birth, to treat the eyes of the infant with a prophylaxis approved by the State board of health; and such treatment shall be given as soon as practicable after the birth of the infant and always within one hour.

A child was born without a physician being in attendance. The father tried to secure the services of the defendant, a practicing

physician, but the latter was busy and unable to respond. He visited the mother and child, however, eight hours after the child's birth, but did not treat the child's eyes with a prophylaxis named and approved by the State board of health. The child later became blind. The defendant was charged with having violated the above quoted statute, but the trial court quashed the information. An appeal was then taken by the State. The supreme court being equally divided on the question, the judgment of the lower court was affirmed.

The opinion affirming the judgment contained the following:

If the contention of the people is correct, the language "always within one hour," in the statute, is surplusage. These clear and express words of limitation may not be disregarded, but must be given full force and effect. The statute by providing such treatment shall be given "always within one hour" after the birth of a child indicates that, in the opinion of the legislature, subsequent treatment would be useless, if not dangerous. -

The statute relied upon is a penal one, and can not be enlarged or extended by construction. [Cases cited.]

On the other hand, it must be strictly construed. [Case cited.]

"It is a cardinal rule of statutory construction that full effect shall be given to every part of the act under consideration. Every clause and every word is presumed to have some force and meaning. No portion should be rendered nugatory." [Case cited.]

* * * * *

No one may be punished under a statute for acts not clearly within the scope of its provisions.

* * * * *

The acts of defendant, instead of coming within the express language of the statute, are clearly not covered by its terms. The statute provides, in effect, for the treatment of a newborn child as soon as practicable, provided the treatment be administered "always within one hour" after the child's birth. If good practice required the treatment of the child's eyes eight hours after its birth defendant may be civilly liable for malpractice, but can not be convicted criminally.

DEATHS DURING WEEK ENDED MARCH 1, 1930

Summary of information received by telegraph from industrial insurance companies for the week ended March 1, 1930, and corresponding week of 1929. (From the Weekly Health Index March 5, 1930, issued by the Bureau of the Census, Department of Commerce)

	Week ended March 1, 1930	Corresponding week, 1929
Policies in force.....	75, 508, 041	73, 396, 493
Number of death claims.....	16, 741	19, 215
Death claims per 1,000 policies in force, annual rate.....	11. 6	13. 7

Deaths from all causes in certain large cities of the United States during the week ended March 1, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index March 5, 1930, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Mar. 1, 1930		Annual death rate per 1,000 corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended Mar. 1, 1930 ¹
	Total deaths	Death rate ¹		Week ended Mar. 1, 1930	Corresponding week, 1929	
Total (65 cities).....	8,397	14.7	15.7	808	958	271
Akron.....	36			3	7	27
Albany.....	49	21.2	17.8	5	2	100
Atlanta.....	112	22.9	19.0	9	6	95
White.....	48			2	1	63
Colored.....	64	(⁹)	(⁹)	7	5	111
Baltimore.....	230	14.4	17.6	23	27	78
White.....	177			18	17	77
Colored.....	53	(⁹)	(⁹)	5	10	81
Birmingham.....	84	19.7	20.4	11	16	163
White.....	37			5	3	77
Colored.....	47	(⁹)	(⁹)	6	13	142
Boston.....	245	16.0	19.4	31	36	87
Bridgeport.....	40			4	3	68
Buffalo.....	197	18.5	14.4	22	17	98
Cambridge.....	36	14.9	13.3	1	2	19
Camden.....	32	12.3	19.3	11	4	200
Canton.....	34	15.2	14.7	4	3	99
Chicago.....	831	13.7	14.5	78	99	69
Cincinnati.....	172			18	18	107
Cleveland.....	218	11.5	12.7	28	36	84
Columbus.....	116	20.2	17.3	7	7	68
Dallas.....	57	13.6	10.5	11	9	
White.....	48			10	8	
Colored.....	9	(⁹)	(⁹)	1	1	
Dayton.....	45	12.7	15.0	3	6	44
Denver.....	83	14.7	19.5	9	18	94
Des Moines.....	20	6.9	10.6	1	3	17
Detroit.....	352	13.3	13.5	57	45	88
Duluth.....	18	8.0	13.4	2	0	54
El Paso.....	26	11.5	14.6	5	10	
Erie.....	22			3	2	64
Fall River.....	35	12.8	12.0	0	6	6
Flint.....	48	16.8	9.1	18	9	152
Fort Worth.....	42	12.8	10.7	2	0	
White.....	35			1	4	
Colored.....	7	(⁹)	(⁹)	1	2	
Grand Rapids.....	42	13.3	11.7	5	4	76
Indianapolis.....	100	13.6	17.6	9	10	67
White.....	78			8	9	69
Colored.....	22	(⁹)	(⁹)	1	1	54
Jersey City.....	65	10.4	13.2	13	9	113
Kansas City, Kans.....	31	13.7	15.9	1	3	24
White.....	25			0	2	0
Colored.....	6	(⁹)	(⁹)	1	1	217
Kansas City, Mo.....	118	15.7	19.3	5	17	39
Knoxville.....	34	16.8	14.8	1	0	23
White.....	24			1	0	26
Colored.....	10	(⁹)	(⁹)	0	0	0
Los Angeles.....	291			27	26	82
Louisville.....	74	11.8	19.9	3	10	26
White.....	59			3	10	30
Colored.....	15	(⁹)	(⁹)	0	0	0
Lowell.....	40			4	5	95
Lynn.....	34	16.8	15.3	2	1	51
Memphis.....	87	23.9	25.8	8	11	95
White.....	44			6	5	110
Colored.....	43	(⁹)	(⁹)	2	6	67
Milwaukee.....	131	12.6	12.6	20	21	101
Minneapolis.....	130	14.9	11.1	9	10	58
Nashville.....	41	13.3	32.1	3	9	46
White.....	25			1	6	21
Colored.....	16	(⁹)	(⁹)	2	3	127
New Bedford.....	38			2	3	51
New Haven.....	45	12.5	12.2	4	7	78
New Orleans.....	164	19.9	18.6	15	13	87
White.....	91			10	7	88
Colored.....	73	(⁹)	(⁹)	5	6	84

See footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended March 1, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929—Continued

City	Week ended Mar. 1, 1930		Annual death rate per 1,000 corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended Mar. 1, 1930
	Total deaths	Death rate		Week ended Mar. 1, 1930	Corresponding week, 1929	
New York.....	1,732	15.0	15.6	173	179	73
Bronx borough.....	238	13.0	11.1	17	20	40
Brooklyn borough.....	609	13.8	13.6	76	62	81
Manhattan borough.....	658	19.6	22.4	62	79	102
Queens borough.....	157	9.6	10.9	11	11	32
Richmond borough.....	70	24.2	20.4	7	7	139
Newark, N. J.....	138	15.2	15.6	10	16	52
Oakland.....	71	13.5	13.1	4	7	48
Oklahoma City.....	44			5	5	68
Omaha.....	72	16.9	19.2	2	13	23
Paterson.....	52	18.7	12.6	4	3	70
Philadelphia.....	551	13.9	16.5	54	53	90
Pittsburgh.....	208	16.1	17.1	16	29	50
Portland, Oreg.....	70			3	2	37
Providence.....	69	12.6	18.2	13	8	119
Richmond.....	61	16.4	16.4	5	8	74
White.....	35			2	2	45
Colored.....	26	(¹)	(¹)	3	6	131
Rochester.....	86	13.7	14.5	4	8	35
St. Louis.....	238	14.6	17.5	8	26	26
St. Paul.....	62			3	7	30
Salt Lake City.....	42	15.9	23.4	3	8	47
San Antonio.....	74	17.7	16.3	13	17	
San Diego.....	37			2	0	42
San Francisco.....	201	17.9	16.7	8	13	55
Schenectady.....	17	9.5	19.0	0	4	0
Seattle.....	99	13.5	12.9	3	7	30
Somerville.....	28	14.2	12.2	3	3	98
Spokane.....	33	15.8	18.6	1	7	26
Springfield, Mass.....	43	15.0	16.7	6	4	95
Syracuse.....	62	16.2	13.6	3	6	37
Tacoma.....	21	9.9	13.7	0	1	0
Toledo.....	86	14.3	12.5	4	7	37
Trenton.....	65	24.4	24.0	9	4	168
Utica.....	33	16.5	17.5	3	2	85
Washington, D. C.....	138	13.0	17.3	7	10	41
White.....	84			4	3	35
Colored.....	54	(¹)	(¹)	3	7	53
Waterbury.....	17			1	1	26
Wilmington, Del.....	33	13.4	14.2	4	4	90
Worcester.....	66	17.4	17.4	8	9	104
Yonkers.....	32	13.8	8.6	6	5	143
Youngstown.....	42	12.6	12.0	3	5	47

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

³ Data for 73 cities.

⁴ Deaths for week ended Friday.

⁵ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 16; Birmingham, 39; Dallas, 15; Fort Worth, 14; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended March 1, 1930, and March 2, 1929

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 1, 1930, and March 2, 1929

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929
New England States:								
Maine.....	4	1	7	124	13	395	1	1
New Hampshire.....	3	1		55	4	16	0	0
Vermont.....				2	1	66	0	0
Massachusetts.....	80	77	7	211	748	350	5	3
Rhode Island.....	5	8		6	1	77	0	0
Connecticut.....	23	26	10	5,053	23	381	3	2
Middle Atlantic States:								
New York.....	160	254	*43	*101	762	917	36	40
New Jersey.....	118	124	27	54	561	329	11	8
Pennsylvania.....	174	173			945	2,440	19	13
East North Central States:								
Ohio.....	75	102	65	187	1,291	1,664	12	8
Indiana.....	15	22		34	118	419	20	0
Illinois.....	174	176	20	258	683	983	10	9
Michigan.....	83	93	5	34	765	542	46	34
Wisconsin.....	27	15	41	286	1,202	930	5	12
West North Central States:								
Minnesota.....	15	23	3	4	271	470	2	2
Iowa.....	10	7	27		776	7	5	3
Missouri.....	56	54	12	143	44	496	18	34
North Dakota.....	4	6			37	54	5	0
South Dakota.....	3	1			104	92	1	0
Nebraska.....	14	15	4	8	653	95	8	5
Kansas.....	19	13	3	5	467	157	11	2
South Atlantic States:								
Delaware.....	1	1	2		4	39	0	0
Maryland.....	27	26	54	358	18	145	2	0
Distriet of Columbia.....	10	11	1	10	21	11	0	0
Virginia.....							2	
West Virginia.....	9	14	24	72	70	167	2	3
North Carolina.....	35	42	36		15	104	6	1
South Carolina.....	22	21	1,082	1,063		10	2	0
Georgia.....	16	14	126	220	114	60	14	3
Florida.....	7	19	5	22	228	41	2	0
East South Central States:								
Kentucky.....				30	56	10	8	0
Tennessee.....	14	7	127	222	150	4	6	3
Alabama.....	13	17	212	270	191	136	3	1
Mississippi.....	11	4					24	1
West South Central States:								
Arkansas.....	10	4	89	270	15	132	5	1
Louisiana.....	19	22	21	104	144	180	7	9
Oklahoma.....	14	23	83	482	161	18	2	3
Texas.....	29	49	64	244	151	75	4	2
Mountain States:								
Montana.....				5	63	115	3	1
Idaho.....				1	23	1	4	7
Wyoming.....	4			1	16	6	1	0
Colorado.....	12	18		5	150	3	1	8
New Mexico.....	5	17	2	3	52	3	10	2
Arizona.....	9	1	5	1	7		9	17
Utah.....		2	3	15	257	1	9	26

* Figures for 1929 include delayed reports. * Week ended Friday.

* New York City only.

* Figures for 1930 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 1, 1930, and March 2, 1929—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929
Pacific States:								
Washington.....	8	7	1	5	248	150	8	15
Oregon.....	6	10	81	96	48	185	1	2
California.....	57	59	45	167	1,433	40	14	22
Division and State	Pollomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929	Week ended Mar. 1, 1930	Week ended Mar. 2, 1929
New England States:								
Maine.....	0	0	75	46	0	4	4	0
New Hampshire.....	0	0	18	9	0	0	0	0
Vermont.....	0	0	7	9	2	2	0	0
Massachusetts.....	0	2	304	304	0	0	0	4
Rhode Island.....	0	0	20	19	0	0	1	0
Connecticut.....	0	0	124	48	0	0	0	0
Middle Atlantic States:								
New York.....	2	0	678	546	7	0	21	5
New Jersey.....	0	0	238	166	0	0	2	1
Pennsylvania.....	2	1	521	514	0	0	6	11
East North Central States:								
Ohio.....	2	1	437	364	240	40	6	9
Indiana.....	0	0	213	255	201	41	2	1
Illinois.....	2	1	717	524	112	89	6	2
Michigan.....	3	0	414	348	60	44	5	2
Wisconsin.....	0	0	227	194	36	5	5	12
West North Central States:								
Minnesota.....	0	0	154	122	6	3	2	3
Iowa.....	0	0	119	188	77	15	2	0
Missouri.....	0	1	118	122	132	33	5	7
North Dakota.....	1	0	42	57	41	8	1	0
South Dakota.....	0	0	15	59	33	25	0	0
Nebraska.....	0	1	155	200	55	124	1	2
Kansas.....	1	0	159	150	71	60	2	0
South Atlantic States:								
Delaware.....	0	0	6	7	0	0	0	0
Maryland.....	0	0	109	73	0	0	2	6
District of Columbia.....	0	0	24	23	0	0	1	1
Virginia.....	0	0	49	32	51	43	13	10
West Virginia.....	0	0	44	44	30	25	0	1
North Carolina.....	1	0	11	14	2	1	10	4
South Carolina.....	0	0	47	17	0	14	5	0
Georgia.....	0	0	9	18	2	1	6	6
Florida.....	0	1	9	18	2	1	6	6
East South Central States:								
Kentucky.....	0	0	117	72	14	5	0	1
Tennessee.....	0	0	32	41	13	0	4	7
Alabama.....	0	1	25	20	3	26	6	3
Mississippi.....	0	2	14	13	9	0	6	8
West South Central States:								
Arkansas.....	0	0	11	25	10	2	3	0
Louisiana.....	1	0	22	42	2	13	10	17
Oklahoma.....	1	0	30	61	133	64	5	5
Texas.....	0	0	40	70	96	102	10	39
Mountain States:								
Montana.....	0	0	63	47	7	14	2	0
Idaho.....	0	0	5	8	13	9	0	6
Wyoming.....	0	0	7	4	9	2	1	0
Colorado.....	1	1	19	66	30	48	0	0
New Mexico.....	0	0	14	15	1	2	3	3
Arizona.....	0	1	31	14	37	10	3	8
Utah.....	0	0	14	15	4	1	0	1
Pacific States:								
Washington.....	0	0	79	32	85	33	8	7
Oregon.....	0	0	48	66	22	50	2	3
California.....	2	2	264	513	68	74	3	14

¹ Figures for 1929 include delayed reports. ² Figures for 1930 are exclusive of Oklahoma City and Tulsa.
³ Week ended Friday.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influen- za	Ma- laria	Meas- les	Pellag- ra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>December, 1929</i>										
Massachusetts.....	12	517	33	2	681		0	1,177	0	27
<i>January, 1930</i>										
California.....	60	425	346	4	2,797	3	17	1,090	614	25
Idaho.....	18	13	5		448		3	80	123	7
Mississippi.....	36	89	6,056	1,987	398	343	0	113	2	15
Montana.....	8	9	0		99		0	181	44	1
Oregon.....	2	47	271		81		0	212	103	5
South Dakota.....	0	10	12		295		1	128	257	1
Tennessee.....	74	65	818	37	407	3	4	154	54	28
Virginia.....	10	201	2,066	18	894	19	3	315	53	26
Washington.....	18	44	23		551		5	319	450	14
Wisconsin.....	21	108	339		4,130		0	722	263	14

<i>December, 1929</i>	
Massachusetts:	Cases
Anthrax.....	1
Chicken pox.....	1,425
Lethargic encephalitis.....	5
Mumps.....	562
Septic sore throat.....	22
Whooping cough.....	960

<i>January, 1930</i>	
Chicken pox:	
California.....	2,414
Idaho.....	100
Mississippi.....	1,052
Montana.....	65
Oregon.....	270
South Dakota.....	144
Tennessee.....	152
Virginia.....	690
Washington.....	620
Wisconsin.....	2,033

Dengue:	
Mississippi.....	24
Dysentery:	
California (amebic).....	3
California (bacillary).....	2
Mississippi (amebic).....	49
Mississippi (bacillary).....	372
Tennessee.....	4

Dysentery and diarrhea:	
Virginia.....	112

Food poisoning:	
California.....	10

German measles:	
California.....	131
Montana.....	5
Washington.....	18
Wisconsin.....	19

Hookworm disease:	
California.....	2
Mississippi.....	281

Impetigo contagiosa:	
Oregon.....	12
Washington.....	7

<i>January, 1930—Continued</i>	
Jaundice (epidemic):	Cases
California.....	4
Leprosy:	
California.....	3
Lethargic encephalitis:	
California.....	7
Montana.....	2
Oregon.....	2
Tennessee.....	1
Washington.....	2
Wisconsin.....	1

Mumps:	
California.....	2,586
Idaho.....	64
Mississippi.....	416
Montana.....	515
Oregon.....	156
South Dakota.....	35
Tennessee.....	46
Washington.....	436
Wisconsin.....	609

Ophthalmia neonatorum:	
California.....	4
Idaho.....	1
Mississippi.....	9
Wisconsin.....	1

Paratyphoid fever:	
California.....	1

Psittacosis:	
Montana.....	2

Puerperal septicemia:	
Mississippi.....	28

Rabies in animals:	
California.....	77
Mississippi.....	4

Rabies in man:	
Tennessee.....	1

Scabies:	
Oregon.....	19

Septic sore throat:	
Idaho.....	5
Montana.....	1

January, 1930—Continued

Septic sore throat—Continued.	Cases
Oregon.....	5
Tennessee.....	2
Washington.....	1
Sprue:	
Tennessee.....	1
Tetanus:	
California.....	3
Tennessee.....	2
Trachoma:	
California.....	15
Mississippi.....	4
Montana.....	2
Tennessee.....	13
Wisconsin.....	4
Trichinosis:	
California.....	65
Tularaemia:	
California.....	3
Oregon.....	1
Tennessee.....	17
Virginia.....	5

January, 1930—Continued

Undulant fever:	Cases
California.....	0
Montana.....	1
Oregon.....	2
Tennessee.....	1
Wisconsin.....	1
Vincent's angina:	
Oregon.....	4
Tennessee.....	5
Washington.....	51
Whooping cough:	
California.....	578
Idaho.....	49
Mississippi.....	929
Montana.....	13
Oregon.....	83
South Dakota.....	36
Tennessee.....	96
Virginia.....	1,075
Washington.....	174
Wisconsin.....	1,271

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 93 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,655,000. The estimated population of the 91 cities reporting deaths is more than 30,570,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended February 22, 1930, and February 23, 1929

	1930	1929	Estimated expectancy
Cases reported			
Diphtheria:			
46 States.....	1,319	1,371	
96 cities.....	565	714	946
Measles:			
43 States.....	9,541	8,655	
96 cities.....	2,779	2,724	
Meningococcus meningitis:			
47 States.....	237	194	
96 cities.....	129	120	
Poliomyelitis:			
47 States.....	17	22	
Scarlet fever:			
46 States.....	5,073	4,466	
96 cities.....	1,839	1,578	1,508
Smallpox:			
46 States.....	1,527	963	
96 cities.....	123	70	60
Typhoid fever:			
46 States.....	174	152	
96 cities.....	31	25	36
Deaths reported			
Influenza and pneumonia:			
91 cities.....	1,181	1,375	
Smallpox:			
91 cities.....	0	0	

City reports for week ended February 22, 1930

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1921 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland	9	1	0		0	1	20	1
New Hampshire:								
Concord	0	0	1		0	2	0	4
Manchester	0	1	0		0	0	0	3
Nashua	1	1	0		0	0	9	0
Vermont:								
Barre	4	0	0		1	6	0	0
Burlington	2	0	0		0	0	0	0
Massachusetts:								
Boston	64	46	19		0	111	45	53
Fall River	5	4	3		0	1	0	2
Springfield	0	4	7		0	1	4	3
Worcester	8	3	0		0	49	0	6
Rhode Island:								
Pawtucket	3	1	5		0	0	0	0
Providence	2	9	4		2	1	0	9
Connecticut:								
Bridgeport	3	7	2	3	4	1	1	5
Hartford	7	6	4		0	0	1	9
New Haven	54	1	0		0	0	7	5
MIDDLE ATLANTIC								
New York:								
Buffalo	22	13	6		0	5	2	28
New York	211	222	108	39	17	229	104	227
Rochester	13	8	3		0	6	3	7
Syracuse	33	4	0		0	0	95	7
New Jersey:								
Camden	2	6	6	2	0	0	0	3
Newark	41	16	17	4	1	123	13	15
Trenton	21	3	4	2	0	32	0	5
Pennsylvania:								
Philadelphia	99	72	23	15	10	69	60	82
Pittsburgh	35	21	15		5	94	11	43
Reading	24	3	1		0	1	2	2
Scranton	1	4	1		0	1	0	0
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	3	9	2		0	8	2	17
Cleveland	134	31	15	20	3	4	36	20
Columbus	19	4	1	1	1	37	1	5
Toledo	42	7	2		0	277	21	8
Indiana:								
Fort Wayne	1	3	4		3	0	0	4
Indianapolis	20	7	3		0	4	7	12
South Bend	6	2	0		0	0	0	5
Terre Haute	5	1	0		0	0	1	2
Illinois:								
Chicago	133	102	95	16	8	15	28	84
Springfield	29	1	0	2	0	0	2	1
Michigan:								
Detroit	74	54	40	5	9	309	51	66
Flint	11	2	0		0	2	1	2
Grand Rapids	2	3	0		0	2	0	6

City reports for week ended February 22, 1930—Continued

Division, State, and city	Chicken pox, cases re- ported	Diphtheria		Influenza		Measles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths reported
		Cases es- timated expect- ancy	Cases re- ported	Cases re- ported	Deaths reported			
EAST NORTH CENTRAL—continued								
Wisconsin:								
Kenosha.....	7	1	0	-----	0	2	0	-----
Madison.....	6	0	1	-----	-----	64	1	-----
Milwaukee.....	170	18	3	2	2	6	37	18
Racine.....	13	3	0	-----	0	1	1	1
Superior.....	0	0	0	-----	0	37	2	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth.....	6	0	1	-----	0	83	0	1
Minneapolis.....	29	15	1	-----	3	52	65	8
St. Paul.....	16	10	2	-----	1	7	10	8
Iowa:								
Davenport.....	3	1	1	-----	-----	0	0	-----
Des Moines.....	2	2	0	-----	-----	80	0	-----
Sioux City.....	4	0	0	-----	-----	34	3	-----
Waterloo.....	22	0	1	-----	-----	120	2	-----
Missouri:								
Kansas City.....	40	6	6	-----	0	13	4	14
St. Joseph.....	1	1	0	-----	0	0	0	5
St. Louis.....	18	46	22	-----	-----	2	18	-----
North Dakota:								
Fargo.....	0	0	0	-----	0	0	18	1
Grand Forks.....	0	0	0	-----	-----	0	0	-----
South Dakota:								
Aberdeen.....	17	0	0	-----	-----	0	3	-----
Sioux Falls.....	0	0	0	-----	-----	9	0	-----
Nebraska:								
Omaha.....	12	4	15	-----	0	45	0	8
Kansas:								
Topeka.....	14	2	1	2	0	41	10	4
Wichita.....	13	3	0	-----	0	3	0	2
SOUTH ATLANTIC								
Delaware:								
Wilmington.....	2	2	0	-----	0	0	0	5
Maryland:								
Baltimore.....	128	27	19	21	4	6	4	43
Cumberland.....	0	1	0	-----	0	1	0	1
Frederick.....	0	0	0	-----	0	0	0	3
District of Columbia:								
Washington.....	23	18	14	1	1	15	0	18
Virginia:								
Lynchburg.....	10	0	6	-----	0	161	13	1
Norfolk.....	3	1	0	-----	0	0	0	7
Richmond.....	3	3	7	-----	3	1	3	8
Roanoke.....	1	1	3	-----	0	5	1	3
West Virginia:								
Charleston.....	18	0	0	1	0	5	0	2
Wheeling.....	8	1	1	-----	0	1	0	4
North Carolina:								
Raleigh.....	6	0	0	-----	0	0	0	2
Wilmington.....	2	0	1	-----	0	0	0	0
Winston-Salem.....	8	1	0	3	0	2	26	4
South Carolina:								
Charleston.....	2	0	3	47	0	0	2	6
Columbia.....	7	1	1	-----	0	0	3	1
Georgia:								
Atlanta.....	4	3	3	25	2	2	13	5
Brunswick.....	0	0	0	-----	0	3	6	0
Savannah.....	2	0	0	3	0	0	0	3
Florida:								
Miami.....	2	2	5	-----	0	0	2	2
St. Petersburg.....	-----	-----	-----	-----	0	-----	-----	4
Tampa.....	15	2	2	-----	1	18	9	2
EAST SOUTH CENTRAL								
Kentucky:								
Covington.....	2	0	3	-----	0	0	0	4

City reports for week ended February 22, 1930—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL—continued								
Tennessee:								
Memphis.....	29	3	2		1	0	31	10
Nashville.....	4	1	3		4	0	1	8
Alabama:								
Birmingham.....	20	2	6	5	2	7	4	10
Mobile.....	8	1	1	5	4	15	0	5
Montgomery.....	4	1	1			79	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith.....	1	0	0			0	0	
Little Rock.....	3	1	1		0	0	1	1
Louisiana:								
New Orleans.....	1	13	3	7	9	74	0	17
Shreveport.....	4	0	0		1	0	0	7
Oklahoma:								
Oklahoma City.....	0	2	0	2	1	0	0	11
Tulsa.....	10	1	2			132	0	
Texas:								
Dallas.....	8	6	9		1	140	2	8
Fort Worth.....	29	3	3		4	0	1	8
Galveston.....	0	1	1		0	0	0	4
Houston.....	5	5	7		2	0	0	5
San Antonio.....	3	3	2		6	0	0	7
MOUNTAIN								
Montana:								
Billings.....	0	1	0		0	0	10	0
Great Falls.....	10	0	0		0	0	21	0
Helena.....	0	0	0		0	0	53	0
Missoula.....	0	0	0		0	0	3	0
Idaho:								
Boise.....	0	0	0		0	0	0	3
Colorado:								
Denver.....	39	11	8		2	43	26	18
Pueblo.....	4	1	0		0	0	23	2
New Mexico:								
Albuquerque.....	3	1	4		0	5	15	5
Arizona:								
Phoenix.....	1	0	0		0	1	0	7
Utah:								
Salt Lake City.....	17	2	0		1	39	13	5
Nevada:								
Reno.....	0	0	0		0	5	0	0
PACIFIC								
Washington:								
Seattle.....		6						
Spokane.....		3						
Tacoma.....	20	1	1		0	1	1	1
Oregon:								
Portland.....	15	8	1	14	3	5	13	9
Salem.....	8	0	0			1	8	
California:								
Los Angeles.....	84	37	11	20	0	130	39	16
Sacramento.....	11	2	0		0	0	29	2
San Francisco.....	67	16	6	1	1	464	77	8

City reports for week ended February 22, 1930—Continued					
			Typhoid fever		
30	574				

March 14, 1930

City reports for week ended February 22, 1930

Division, State, and city	Scarlet fever		Smallpox		Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported		Deaths reported	Cases, estimated expectancy	Cases reported		
NEW ENGLAND										
Maine:										
Portland	3	3	0	0	0	1	0	0	0	13
New Hampshire:										
Concord	1	1	0	0	0	1	0	0	0	11
Manchester	4	0	0	0	0	0	0	0	0	35
Nashua	0	0	0	0	0	0	0	0	0	
Vermont:										
Barre	1	0	0	0	0	0	1	1	0	290
Burlington	1	0	0	0	0	10	3	0	0	44
Massachusetts:										
Boston	85	80	0	0	0	3	1	0	0	45
Fall River	4	3	0	0	0	1	0	0	0	70
Springfield	9	11	0	0	0	2	0	0	0	21
Worcester	10	9	0	0	0	0	0	0	0	74
Rhode Islands:										
Pawtucket	2	2	0	0	0	0	0	0	0	37
Providence	12	25	0	0	0	2	0	1	0	41
Connecticut:										
Bridgeport	13	18	0	0	0	1	0	0	0	56
Hartford	6	7	0	0	0	0	1	0	0	
New Haven	10	10	0	0	0	2	0	0	0	
MIDDLE ATLANTIC										
New York:										
Buffalo	30	21	0	0	0	10	0	0	0	157
New York	347	236	0	0	0	84	1	12	0	1,615
Rochester	10	4	0	0	0	4	1	0	0	89
Syracuse	14	36	0	0	0	0	0	0	0	52
New Jersey:										
Camden	7	4	0	0	0	2	0	0	0	33
Newark	42	39	0	0	0	8	0	0	0	217
Trenton	5	23	0	0	0	7	2	2	0	31
Pennsylvania:										
Philadelphia	101	139	0	0	0	28	1	0	0	596
Pittsburgh	36	27	0	0	0	13	0	0	0	34
Reading	8	5	0	0	0	3	0	0	0	32
Scranton	3	0	0	0	0	0	0	0	0	1
EAST NORTH CENTRAL										
Ohio:										
Cincinnati	22	27	1	3	0	10	0	0	0	170
Cleveland	51	69	1	2	0	11	1	1	0	210
Columbus	10	12	1	7	0	6	7	0	0	77
Toledo	13	8	1	9	0	0	0	0	0	56
Indiana:										
Fort Wayne	5	1	1	2	0	0	0	0	0	29
Indianapolis	13	20	0	0	0	0	0	0	0	30
South Bend	3	18	0	0	0	0	1	0	0	20
Terre Haute	3	2	0	0	0	0	1	0	0	812
Illinois:										
Chicago	140	291	3	2	0	0	0	0	0	34
Springfield	4	2	0	0	0	0	27	0	0	27
Michigan:										
Detroit	113	163	2	7	0	0	1	0	0	6
Flint	14	18	1	6	0	0	0	0	0	21
Grand Rapids	13	13	1	0	0	0	0	0	0	133
Wisconsin:										
Kenosha	2	12	0	0	0	0	0	0	0	21
Madison	4	6	0	0	0	0	5	0	0	9
Milwaukee	40	27	0	0	0	0	0	0	0	0
Racine	5	3	0	0	0	0	0	0	0	0
Superior	4	1	0	0	0	0	0	0	0	0

City reports for week ended February 22, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths reported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expec- tancy	Cases re- ported	Cases, esti- mated expec- tancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expec- tancy	Cases re- ported	Deaths re- ported		
WEST NORTH CEN- TRAL											
Minnesota:											
Duluth.....	10	3	0	1	0	2	0	1	0	8	24
Minneapolis.....	61	19	4	0	0	3	0	0	0	1	91
St. Paul.....	36	13	1	1	0	3	0	0	0	19	47
Iowa:											
Davenport.....	2	0	1	18			0	0		0	
Des Moines.....	9	23	1	12			0	0		0	35
Sioux City.....	1	6	1	1			0	0		9	
Waterloo.....	3	1	0	22		1	0	0		0	
Missouri:											
Kansas City.....	18	40	3	0	0	2	0	0	0	8	115
St. Joseph.....	3	3	0	0	0	2	0	0	0	0	32
St. Louis.....	45	36	2	11	0	15	0	0	0	6	240
North Dakota:											
Fargo.....	1	3	0	1	0	0	0	0	0	5	9
Grand Forks.....	1	6	1	1			0	0		0	
South Dakota:											
Aberdeen.....	0	0	0	0			0	0		3	
Sioux Falls.....	3	6	0	4			0	0		0	10
Nebraska:											
Omaha.....	5	9	2	7	0	0	0	0	0	0	54
Kansas:											
Topeka.....	2	8	0	2	0	0	0	0	0	6	25
Wichita.....	5	28	1	2	0	2	0	0	0	2	33
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	5	6	0	0	0	0	0	0	1	0	29
Maryland:											
Baltimore.....	35	44	0	0	0	12	1	0	0	25	240
Cumberland.....	1	0	0	0	0	2	0	0	0	0	12
Frederick.....	0	4	0	0	0	1	0	0	0	0	7
District of Colum- bia:											
Washington.....	28	24	0	0	0	15	1	0	0	5	163
Virginia:											
Lynchburg.....	0	2	0	0	0	0	0	0	0	9	11
Norfolk.....	3	1	0	0	0	2	0	0	0	1	
Richmond.....	4	8	0	1	0	4	0	0	0	0	70
Roanoke.....	1	1	0	0	0	0	0	0	0	5	13
West Virginia:											
Charleston.....	0	1	1	0	0	2	1	7	0	17	27
Wheeling.....	2	1	0	0	0	0	0	0	0	6	16
North Carolina:											
Raleigh.....	1	1	0	0	0	1	0	0	0	4	15
Wilmington.....	0	0	0	0	0	1	0	0	0	8	7
Winston-Salem.....	1	1	0	0	0	1	0	0	0	11	17
South Carolina:											
Charleston.....	0	0	0	0	0	1	1	0	0	0	30
Columbia.....	0	1	0	0	0	1	0	0	0	7	17
Georgia:											
Atlanta.....	5	22	4	0	0	4	0	0	0	0	71
Brunswick.....	0	0	0	0	0	0	0	0	0	0	4
Savannah.....	2	1	0	0	0	2	1	0	0	0	32
Florida:											
Miami.....	1	2	0	0	0	1	1	0	1	0	35
St. Petersburg.....	0	0	0	0	0	2	0	0	0	0	20
Tampa.....	1	1	0	0	0	0	1	0	0	0	33
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	2	0	0	0	0	3	0	0	0	0	25
Tennessee:											
Memphis.....	8	20	1	1	0	4	1	0	0	11	78
Nashville.....	3	2	1	1	0	3	0	0	0	9	
Alabama:											
Birmingham.....	2	3	4	0	0	6	1	0	0	2	67
Mobile.....	1	0	0	0	0	3	1	1	1	1	36
Montgomery.....	0	0	0	0			0	0		2	

City reports for week ended February 22, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culo- sis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
WEST SOUTH CEN- TRAL											
Arkansas:											
Fort Smith.....	1	0	0	0	0	1	0	0	0	0	0
Little Rock.....	2	0	0	1	0	1	0	0	0	0	0
Louisiana:											
New Orleans.....	8	9	0	0	0	24	2	1	0	0	162
Shreveport.....	2	2	1	3	0	0	1	0	0	3	34
Oklahoma:											
Oklahoma City.....	3	23	2	20	0	1	0	0	0	0	49
Tulsa.....	2	2	1	2	0	0	1	0	0	6	0
Texas:											
Dallas.....	4	10	4	2	0	4	1	0	0	0	73
Fort Worth.....	2	3	2	0	0	1	0	0	0	0	42
Galveston.....	0	0	0	0	0	0	1	0	0	0	17
Houston.....	2	2	3	5	0	10	0	0	0	0	87
San Antonio.....	1	4	0	4	0	12	0	0	0	0	76
MOUNTAIN											
Montana:											
Billings.....	0	3	0	0	0	0	0	0	0	0	7
Great Falls.....	2	11	1	0	0	0	0	0	0	0	8
Helena.....	0	2	0	0	0	0	0	0	0	2	7
Missoula.....	0	1	0	1	0	1	0	0	0	0	3
Idaho:											
Boise.....	0	1	0	0	0	0	0	0	0	0	11
Colorado:											
Denver.....	13	12	1	0	0	8	1	0	0	0	66
Pueblo.....	2	0	0	0	0	0	0	1	0	0	14
New Mexico:											
Albuquerque.....	2	0	0	0	0	7	0	0	0	0	21
Arizona:											
Phoenix.....	1	0	0	12	0	5	0	0	0	0	20
Utah:											
Salt Lake City.....	3	4	1	0	0	1	0	0	0	32	42
Nevada:											
Reno.....	0	1	0	1	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle.....	10		3				0				
Spokane.....	7		10				0				
Tacoma.....	2	5	3	13	0	0	0	0	0	10	25
Oregon:											
Portland.....	7	1	15	20	0	0	1	1	0	8	66
Salem.....	1	0	1	0	0	0	0	0	0	0	0
California:											
Los Angeles.....	40	53	2	2	0	28	1	2	0	10	262
Sacramento.....	2	6	0	6	0	1	0	1	0	1	30
San Francisco.....	24	19	1	1	0	15	0	0	0	3	144

City reports for week ended February 22, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland.....	0	0	1	0	0	0	0	0	0
Massachusetts:									
Boston.....	2	0	0	1	0	0	0	0	0
Springfield.....	0	0	1	0	0	0	0	1	0
Worcester.....	1	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
Buffalo.....	5	0	0	0	0	0	0	0	0
New York.....	11	6	1	0	0	0	1	1	0
Syracuse.....	1	0	1	0	0	0	0	0	0
New Jersey:									
Newark.....	2	0	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia.....	6	1	0	0	0	0	1	0	0
Pittsburgh.....	6	1	0	0	0	0	0	1	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	1	0	0	0	0	0	0	0	0
Cleveland.....	2	1	1	1	0	0	0	0	0
Indiana:									
Indianapolis.....	18	13	0	0	0	0	0	0	0
Illinois:									
Chicago.....	5	0	1	2	0	0	0	2	0
Michigan:									
Detroit.....	26	9	1	1	0	1	1	0	0
Flint.....	1	1	0	0	0	0	0	0	0
Grand Rapids.....	1	1	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee.....	1	0	1	1	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
St. Paul.....	0	0	1	1	0	0	0	1	0
Iowa:									
Waterloo.....	2	0	0	0	0	0	0	0	0
Missouri:									
Kansas City.....	4	2	0	0	0	0	0	0	0
St. Joseph.....	1	0	0	0	0	0	0	0	0
St. Louis.....	3	1	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	1	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	0	0	0	0	0	0	0	1	0
Maryland:									
Baltimore.....	1	0	1	0	0	0	1	0	0
Virginia:									
Richmond.....	0	0	0	1	0	0	0	0	0
West Virginia:									
Wheeling.....	1	0	0	0	0	0	0	0	0
North Carolina:									
Raleigh.....	0	0	0	0	0	1	0	0	0
Winston-Salem.....	0	1	0	0	1	2	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	2	0	0	0	0
Columbia.....	0	1	0	0	0	1	0	0	0
Georgia:									
Atlanta.....	1	0	0	0	0	0	0	0	0
Savannah.....	1	1	0	0	3	2	0	0	0
Florida:									
Tampa.....	0	0	0	0	0	1	0	0	0

City reports for week ended February 22, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	8	0	0	0	0	0	0	0	0
Nashville.....	2	3	0	0	0	1	0	0	0
Alabama:									
Birmingham.....	0	0	0	0	0	1	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans.....	2	1	0	0	0	0	0	0	0
Oklahoma:									
Tulsa.....	1	0	0	0	0	0	0	0	0
Texas:									
Dallas.....	2	1	0	0	0	0	0	0	0
Fort Worth.....	0	0	0	0	0	1	0	0	0
Houston.....	0	0	0	0	0	1	0	0	0
San Antonio.....	1	0	0	0	0	0	0	0	0
MOUNTAIN									
Colorado:									
Denver.....	1	0	0	0	0	0	0	0	0
Pueblo.....	0	1	0	0	0	0	0	0	0
Utah:									
Salt Lake City.....	2	1	0	0	0	0	0	0	0
PACIFIC									
Oregon:									
Portland.....	0	0	1	0	0	0	0	0	0
California:									
Los Angeles.....	2	0	0	0	0	0	0	0	1
Sacramento.....	3	2	0	0	1	1	0	0	0
San Francisco.....	2	0	0	0	0	0	0	0	0

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended February 22, 1930, compared with those for a like period ended February 23, 1929. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 32,000,000. The 91 cities reporting deaths have more than 30,500,000 estimated population.

Summary of weekly reports from cities, January 19 to February 22, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929¹

DIPHTHERIA CASE RATES

	Week ended—									
	Jan. 25, 1930	Jan. 26, 1929	Feb. 1, 1930	Feb. 2, 1929	Feb. 8, 1930	Feb. 9, 1929	Feb. 15, 1930	Feb. 16, 1929	Feb. 22, 1930	Feb. 23, 1929
98 cities.....	² 114	125	³ 115	109	⁴ 95	117	⁵ 97	121	⁶ 93	118
New England.....	140	200	⁷ 128	108	⁷ 112	117	95	130	100	117
Middle Atlantic.....	96	136	⁸ 103	133	97	141	83	147	87	139
East North Central.....	145	122	140	106	103	113	115	115	102	106
West North Central.....	82	115	⁹ 47	90	¹⁰ 94	146	104	150	93	131
South Atlantic.....	106	79	106	107	70	67	93	73	110	67
East South Central.....	74	137	94	68	81	82	¹¹ 58	82	108	68
West South Central.....	157	114	232	95	168	114	146	114	81	175
Mountain.....	¹² 51	52	¹³ 34	70	¹⁴ 34	78	¹⁵ 0	44	69	44
Pacific.....	92	92	¹⁶ 68	65	43	68	87	77	¹⁷ 55	106

MEASLES CASE RATES

98 cities.....	¹ 227	261	² 221	274	³ 329	252	⁴ 421	404	⁵ 458	456
New England.....	210	667	⁶ 323	514	⁷ 305	561	432	541	383	382
Middle Atlantic.....	117	86	⁸ 160	93	186	129	224	114	267	140
East North Central.....	137	381	168	418	172	66	253	761	269	883
West North Central.....	457	627	⁹ 604	770	¹⁰ 695	1,193	793	983	759	1,253
South Atlantic.....	157	84	287	103	245	133	305	135	403	167
East South Central.....	27	27	61	7	81	14	¹¹ 357	41	681	0
West South Central.....	624	34	314	34	695	34	743	50	799	80
Mountain.....	¹² 377	871	¹³ 462	697	¹⁴ 479	1,341	¹⁵ 908	1,019	747	923
Pacific.....	730	75	¹⁶ 124	99	1,200	135	1,450	164	¹⁷ 1,826	145

SCARLET FEVER CASE RATES

98 cities.....	¹ 295	230	² 305	232	³ 327	246	⁴ 312	277	⁵ 303	261
New England.....	419	317	⁶ 321	303	⁷ 479	305	350	373	374	292
Middle Atlantic.....	239	217	⁸ 252	190	274	186	246	222	255	202
East North Central.....	379	262	420	280	432	318	438	340	425	341
West North Central.....	307	296	⁹ 346	306	¹⁰ 332	312	324	360	321	373
South Atlantic.....	176	114	205	131	203	146	231	157	216	144
East South Central.....	169	232	162	157	216	246	¹¹ 222	260	169	185
West South Central.....	105	99	78	145	138	232	116	255	101	270
Mountain.....	¹² 479	104	¹³ 616	61	¹⁴ 411	113	¹⁵ 599	87	300	113
Pacific.....	402	258	¹⁶ 367	350	338	304	314	328	¹⁷ 255	292

SMALLPOX CASE RATES

98 cities.....	¹ 26	8	² 33	7	³ 30	5	⁴ 27	8	⁵ 20	12
New England.....	4	0	⁶ 0	0	⁷ 2	0	7	0	0	0
Middle Atlantic.....	1	0	⁸ 0	0	0	0	0	0	0	0
East North Central.....	19	8	39	10	34	8	33	15	20	15
West North Central.....	70	2	⁹ 53	8	¹⁰ 69	2	47	0	91	15
South Atlantic.....	2	7	5	11	4	0	5	2	2	4
East South Central.....	0	14	13	7	0	0	¹¹ 39	0	13	0
West South Central.....	37	46	78	27	101	50	105	23	56	95
Mountain.....	¹² 34	61	¹³ 86	78	¹⁴ 34	26	¹⁵ 68	70	17	35
Pacific.....	177	19	¹⁶ 244	7	146	7	104	24	¹⁷ 71	19

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1930 and 1929, respectively.

² Denver, Colo., not included.

³ Portland, Me., Buffalo, N. Y., St. Louis, Mo., Denver, Colo., and San Francisco, Calif., not included.

⁴ Portland, Me., Kansas City, Mo., and Denver, Colo., not included.

⁵ Birmingham, Ala., and Denver, Colo., not included.

⁶ Seattle and Spokane, Wash., not included.

⁷ Portland, Me., not included.

⁸ Buffalo, N. Y., not included.

⁹ St. Louis, Mo., not included.

¹⁰ Kansas City, Mo., not included.

¹¹ Birmingham, Ala., not included.

¹² San Francisco, Calif., not included.

Summary of weekly reports from cities, January 19 to February 22, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Jan. 23, 1930	Jan. 26, 1929	Feb. 1, 1930	Feb. 2, 1929	Feb. 8, 1930	Feb. 9, 1929	Feb. 15, 1930	Feb. 16, 1929	Feb. 22, 1930	Feb. 23, 1929
98 cities.....	14	4	15	4	14	5	15	5	15	4
New England.....	0	2	7	2	7	2	2	4	4	9
Middle Atlantic.....	5	2	5	4	3	4	6	4	7	4
East North Central.....	3	4	3	1	5	3	3	2	1	2
West North Central.....	2	4	6	6	10	2	9	12	2	6
South Atlantic.....	7	2	7	7	11	6	7	6	13	4
East South Central.....	20	7	7	0	20	7	10	14	7	7
West South Central.....	4	23	4	8	7	27	7	11	4	8
Mountain.....	17	0	17	0	10	9	10	0	9	0
Pacific.....	2	10	20	7	2	7	5	7	9	5

INFLUENZA DEATH RATES

91 cities.....	22	131	15	84	14	58	20	54	20	45
New England.....	9	204	2	141	5	90	4	56	16	40
Middle Atlantic.....	14	134	16	83	11	58	15	44	16	35
East North Central.....	17	70	13	48	13	28	18	36	16	33
West North Central.....	18	69	18	45	10	51	12	33	12	45
South Atlantic.....	31	182	11	114	11	92	29	60	29	69
East South Central.....	59	619	59	298	37	127	66	224	81	82
West South Central.....	111	199	88	168	54	162	73	152	73	133
Mountain.....	10	70	17	35	17	78	17	87	29	78
Pacific.....	18	44	15	41	9	41	21	41	3	38

PNEUMONIA DEATH RATES

91 cities.....	142	327	171	273	176	230	174	222	182	193
New England.....	126	405	181	507	151	384	177	363	221	233
Middle Atlantic.....	135	454	165	360	190	298	202	354	200	192
East North Central.....	111	184	129	170	139	133	129	183	153	170
West North Central.....	148	189	160	189	146	186	109	180	151	207
South Atlantic.....	196	388	218	268	198	240	190	243	203	238
East South Central.....	221	358	272	209	256	194	263	164	272	157
West South Central.....	310	297	314	191	291	191	276	211	188	250
Mountain.....	171	157	205	148	274	235	188	244	240	226
Pacific.....	95	123	167	113	160	129	132	123	83	129

¹ Denver, Colo., not included.

² Portland, Me., Buffalo, N. Y., St. Louis, Mo., Denver, Colo., and San Francisco, Calif., not included.

³ Portland, Me., Kansas City, Mo., and Denver, Colo., not included.

⁴ Birmingham, Ala., and Denver, Colo., not included.

⁵ Seattle and Spokane, Wash., not included.

⁶ Portland, Me., not included.

⁷ Buffalo, N. Y., not included.

⁸ St. Louis, Mo., not included.

⁹ Kansas City, Mo., not included.

¹⁰ Birmingham, Ala., not included.

¹¹ San Francisco, Calif., not included.

¹² Portland, Me., Buffalo, N. Y., Denver, Colo., and San Francisco, Calif., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended February 15, 1930.—The Department of Pensions and National Health reports cases of certain communicable diseases from eight Provinces of Canada as follows:

Province	Cerebro-spinal fever	Influenza	Poliomy-elitis	Small-pox	Typhoid fever
Prince Edward Island ¹					
Nova Scotia.....		15			
New Brunswick ¹					
Quebec.....			1		19
Manitoba.....	2			2	5
Saskatchewan.....				2	
Alberta.....	3		1		
British Columbia.....			1	5	1
Total.....	5	15	3	9	16

¹ No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended February 22, 1930.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended February 22, 1930, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	1	Mumps.....	177
Chicken pox.....	133	Ophthalmia neonatorum.....	1
Diphtheria.....	35	Scarlet fever.....	149
German measles.....	16	Tuberculosis.....	51
Influenza.....	11	Typhoid fever.....	34
Measles.....	228	Whooping cough.....	116

CHINA

Meningitis.—During the week ended March 5, 1930, 24 cases of meningitis were reported at Shanghai, China.

PANAMA CANAL ZONE

Communicable diseases—September, 1929.—During the month of September, 1929, certain communicable diseases, including imported cases, were reported in the Panama Canal Zone and terminal cities as follows:

	Cases	Deaths		Cases	Deaths
Chicken pox.....	9		Mumps.....	6	
Diphtheria.....	40	1	Pneumonia.....		28
Dysentery (amebic).....	2	1	Smallpox.....	256	1
Dysentery (bacillary).....	2		Tuberculosis.....		33
Leprosy.....	1		Typhoid fever.....	3	
Malaria.....	83	1	Whooping cough.....	3	
Measles.....	16				

SPAIN

Vital statistics.—According to information published by the health department of Spain the number of births reported in the Kingdom during 1929 was 653,571, the number of deaths 407,421, and the number of stillbirths 21,153. The excess of births over deaths was 246,150 (253,068 in 1928), indicating that, at the present time, the population of Spain is increasing by about a quarter of a million per year.

The following table shows the birth, death, and infant mortality rates for 1929 as compared with 1928 and 1901:

	1929	1928	1901
Births per 1,000 population.....	28.92	29.67	34.85
Deaths per 1,000 population.....	18.03	18.40	27.73
Stillbirths per 1,000 births.....	31.4	30.8	23.4
Deaths under 1 year per 1,000 births.....	123.0	125.0	186.0

The following table shows the number of deaths per 100,000 population from certain causes during the years 1929, 1928, and 1901:

Deaths per 100,000 population

Cause of death	1929	1924	1901
Bronchitis, acute.....	80.6	75.6	130.3
Bronchitis, chronic.....	42.5	39.5	94.3
Cancer and other malignant tumors.....	70.0	70.3	42.4
Cerebral congestion, hemorrhage and softening of the brain.....	124.8	130.6	173.1
Cirrhosis of the liver.....	16.0	15.9	18.3
Congenital debility and malformations.....	60.1	62.3	73.0
Diarrhea and enteritis under 2 years (per 1,000 children of that age).....	35.6	35.6
Diphtheria.....	5.4	6.1	33.9
Heart disease.....	168.9	163.4	149.1
Hernia and intestinal obstructions.....	12.8	12.7	15.9
Influenza.....	24.3	15.4	64.1
Malaria.....	2.5	3.3	21.3
Measles.....	16.2	21.3	90.2
Meningitis (simple).....	49.0	55.0	107.0
Nephritis and Bright's disease.....	56.9	56.7	33.3
Pneumonia.....	43.0	39.5	94.3
Puerperal septicemia (per 1,000 births).....	20.0	22.0	32.7
Other diseases of the respiratory tract.....	160.0	147.2	145.1
Scarlet fever.....	1.0	1.4	6.1
Senility (per cent of deaths from all causes).....	3.0	4.9	1.9
Smallpox ¹
Suicide.....	3.5	3.9	2.1
Tuberculosis (all forms).....	136.4	139.0	210.0
Typhoid fever.....	17.3	20.8	51.4
Whooping cough.....	8.1	7.7	20.9

¹ Only 3 deaths from smallpox were reported in the country during 1929, as compared with more than 5,000 at the beginning of the century and more than 1,000 half a dozen years ago.

YUGOSLAVIA

Communicable diseases—January, 1930.—During the month of January, 1930, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	27	1	Rabies.....	1	1
Cerebrospinal meningitis.....	10	4	Scarlet fever.....	1,544	261
Diphtheria and croup.....	627	112	Tetanus.....	9	7
Dysentery.....	16	4	Typhoid fever.....	409	82
Measles.....	1,040	11	Typhus fever.....	26	3
Poliomyelitis.....	2			

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

[illegible]

March 14, 1930

Place	On vessel:	August, 1929		September, 1929		October, 1929		November, 1929			December, 1929			January, 1930		
		1	2	1	2	1	2	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31
India (French):																
Chander Nagar		1		1	5			10	4	1	1					
Karikal		1		3	5			2		1	1					
Pondicherry Province		1		3				2								
India (Portuguese)		1		1												
Indo-China (see also table below):																
Promyeh		3	3	61	43			1		1	2			2	2	2
Saigon		3	2	53	37			2		1	2			2	2	2
Cholon		2		1	1			1		1	1			1		1
Japan																
Kobe		2	9	34												
Osaka		6	41	14												
Shimonoseki		180	26	9				2	1	4	3	2	3			
Siam		112	19	4	1			1		1	1	1				
Anthong		10														
Ayudhya		3	2	2				2		2	1	2	3	2	1	
Bangkok		9	10	4				2		1	1	1				
Dhannapuri		3	2	2												
Lobpur		2	3	3												
Nagura Rajima		6	5	2												
Sridharmaraj Province		15	5	2												
On vessel:		13														
S. S. Shinsei, at Shanghai				3												
S. S. Texas Maru, at Nagasaki, from Shanghai		1														
S. S. at Suva, Fiji Islands																
Indo-China (French) (see also table above):																
Annam		17	3	1										1		76
Cambodia		35	38	221										71		110
Cochin-China		60	45	3										67		
Laos		3	12													

11 case of cholera occurred on steamship at Suva, Fiji Islands, week ended Mar. 1, 1930.

PLAGUE

Week ended—

[illegible]

Place	Aug., 1929	Sep-tem-ber, 1929	No-ven-ber, 1929	De-cem-ber, 1929	Jan-uary, 1930	Place	Aug., 1929	Sep-tem-ber, 1929	No-ven-ber, 1929	De-cem-ber, 1929	Jan-uary, 1930
Tunisia:											
Sfax district.....	C	C	C	C	C						
Tunis.....	D	D	D	D	D						
Plague-infected rats											
Turkey: Adalia.....	C	C	C	C	C						
Union of Socialist Soviet Republics:											
Caucasia.....	C	C	C	C	C						
Kanka.....	C	C	C	C	C						
Ural-Kirghiz.....	C	C	C	C	C						
Union of South Africa:											
Cape Province.....	C	C	C	C	C						
Orange Free State.....	C	C	C	C	C						
Transvaal.....	C	C	C	C	C						
On vessel:											
S. S. Chaban, at Port Said, from Jaffa.....	C	C	C	C	C						
Steamship at Porto Novo, from Lagos.....	C	C	C	C	C						
At Rio de Janeiro, Brazil, from Argentina.....	C	C	C	C	C						
British East Africa (see also table above):											
Kenya.....	C	C	C	C	C						
Uganda.....	C	C	C	C	C						
Ecuador: Guayaquil.....	C	C	C	C	C						
Greece (see also table above).....	C	C	C	C	C						
Plague-infected rats.....	C	C	C	C	C						
Indo-China (see also table above).....	C	C	C	C	C						
Madagascar (see also table above):											
Ambohitra Province.....	C	C	C	C	C						
Antsirabe Province.....	C	C	C	C	C						
Itasy Province.....	C	C	C	C	C						
Matanga Province.....	C	C	C	C	C						
Marinarivo.....	C	C	C	C	C						
Incomplete reports.											

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX

[OC indicates cases; D, deaths; P, present]

[illegible]

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Week ended—											
	December, 1929			January, 1930					February, 1930			
	21	28	4	11	18	25	1	8	15	22	X	
London and Great Towns.....	297	304	332	442	783							
Newcastle-on-Tyne.....	4	18	7	9	1							
Stoke-on-Trent.....	11	22	1	6	1							
Greece: Patras.....	19	7	5	1	6							
Hedjaz.....	11	22	1	6	1							
Honduras: Choluteca.....	5,481	4,199	3,111	3,337	7,644							
India.....	1,418	1,954	3,730	1,963	2,723	1,747						
Bombay.....	63	37	16	12	42	19	29	25	46	85	74	86
Calcutta.....	31	24	11	8	14	11	12	15	19	33	23	50
Cochin.....	20	16	11	6	54	7	18	29	34	41	35	55
Karachi.....	15	27	10	2	11	72	6	4	3	7	6	11
Madras.....	89	62	79	58	64	27	23	10	23	10	22	34
Moulmein.....	11	5	3	3	11	7	5	2	2	3	3	3
Nagasaki.....	15	2	3	2	3	6	3	1	8	5	13	29
Negapatam.....	1	3	1	2	3	3	1	4	1	2	8	2
Rangoon.....	1	1	1	1	1	1	1	1	1	1	2	3
Tuticorin.....	1	1	1	1	1	1	1	1	1	1	1	1
Visagapatam.....	1	1	1	1	1	1	1	1	1	2	2	1
India (French):	12	14	2	4	1							
Karikal.....	2	13	5	10	7							
Pondicherry Provinces.....	12	13	8	10	7							
	7	8	3	16	7							

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Week ended—														
	January, 1930						February, 1930								
	December, 1929		21	28	4	11	18	25	1	8	15	22			
July 28-29, 1929	Aug. 5-6, 1929	Sept. 12-13, 1929	Oct. 19-20, 1929	Nov. 26-27, 1929	Nov. 16-17, 1929	Dec. 23-24, 1929	Jan. 30-31, 1930	Feb. 6-7, 1930	Feb. 13-14, 1930	Feb. 20-21, 1930	Feb. 27-28, 1930	Mar. 6-7, 1930			
Sudan (Anglo-Egyptian).....	87	598	250	91	254	52	30	3	205	14	21	171	5	19	2
D	73	95	16	12	45	14	9		42	1	8	20	5		
Sudan (French) (see table below).			6	23	47		14	3	3	1	4	1			
Syria (see table below).															
Tunisia: Tunis.....															
Turkey (see table below).															
Union of South Africa:															
Natal Province.....			P	P	P	P	P	P	P	P					
Natal.....	P	P	P	P	P	P	P	P	P	P					
Transvaal.....			P	P	P										
Upper Volta.....			1												
On vessel.....															
S. S. Karoo, at Zanzibar.....		1		1											
S. S. Tadjikn, at Manila, from Australia.....				1											
S. S. Unwuma, at Cape Town, from London.....			5												
Place	Aug., 1929	Sep., 1929	Oct., 1929	Nov., 1929	Dec., 1929	Jan., 1930	Feb., 1930	Mar., 1930	Apr., 1930	May, 1930	June, 1930	July, 1930	Aug., 1930	Sept., 1930	Oct., 1930
Belgian Congo.....		725													
Dahomey.....		19													
Indo-China (see also table above).....		64	128												
Ivory Coast.....	263														
Sudan (French).....	2	2													
Syria: Beirut.....	29	37	28	1											

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

Place	Week ended—											
	November, 1929			December, 1929			January, 1930			February, 1930		
	23	30	7	14	21	28	4	11	18	25	1	8
Chosen (see table below).												
Egypt:												
Alexandria.....	1	2					9	1				
Assuan.....							7					
Behelra Province.....	31	6	16	2					6	8		
Cairo.....	4	2	4	1								
Dakablieh.....		3					1					
Port Said.....	3	1					4	7				
Suez.....	2	1					2	2		1		
Greece (see table below).												
Iraq: Baghdad Liwa.....												
Ireland (Irish Free State): Donegal County—Dunfanaghy.....							1	1				
Latvia (see table below).							1	1				
Lithuania (see table below).												
Mexico:												
Aguascalientes.....	1											
Mexico City, including municipalities in Federal District.....	11	14	9	3	1	1	2	4	2			
Morocco.....	1	6	1									
Palestine.....	6	3	3	2	1	1	1	1	3	2	2	
Persia.....	23	5	3								7	
Peru: Arequipa (see table below).	8											
Poland.....	48	26	31	62	17	16	19	22	18	67	96	81
Portugal: Oporto.....	1	4	3	3	2	3	4		2	5	7	1

Rumania.....	C	9	39	25	19	8	11	32	52	14	68						
Tunisia.....	D	1	4	5	2	1	1	1	9	1	4						
Turkey (see table below).	C	4	1	1	1	1	1		1		2						
Union of South Africa:																	
Cape Province.....	C	1	P	P	P		P	P		P	P						
Natal.....	C	P	P	2	P		P	P		P	P						
Orange Free State.....	C	P	P	P	P		P	P		P	P						
Transvaal.....	C	P	P	P	P		P	P		P	P						
Yugoslavia (see table below).																	

Place	August, 1929	September, 1929	October, 1929	November, 1929	December, 1929	January, 1930	Place	August, 1929	September, 1929	October, 1929	November, 1929	December, 1929	January, 1930
Chosen: Seoul.....	C	1			1		Peru: Arequipa.....		1	1			
Czechoslovakia.....	C			3			Turkey.....	3	4	10	2	4	2
France.....	C	1			1		Yugoslavia.....	7	1	1		6	26
Greece: Athens.....	C	6	7		2			2				1	3
Latvia.....	C	1	3	4	1								
Lithuania.....	D	7	6										

YELLOW FEVER

During the month of September, 1929, cases of yellow fever were reported as follows: Nictiteroy, Brazil, 1 case; Rio de Janeiro, Brazil, 2 cases; Monrovia, Liberia, 1 case.

X